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Atomic Spectroscopy

Consumables and Supplies

Genuine PerkinElmer Products — Genuine Value

VOLUME 4 2010 **THE WORLD LEADER IN ATOMIC SPECTROSCOPY**

AAnalyst 800

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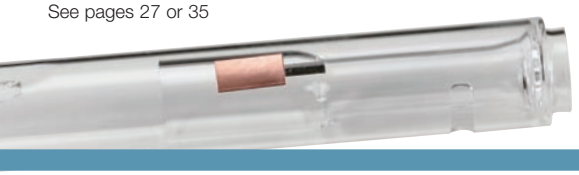

NEW! **PerkinElmer Atomax™ 1.5 inch Hollow Cathode Lamps**

See pages 4–5

Please contact your local Sales office for more information on offers.

Order online at **www.perkinelmer.com/supplies**

PerkinElmer®
For the Better

New Investments – Local Support – Proven Quality!

For over 50 years, PerkinElmer has helped our global laboratory partners meet their most demanding application measurement challenges. Our experience in Chromatography, Spectroscopy and Material Characterization gives us a unique advantage in providing holistic and comprehensive solutions for laboratories in universities and key market segments like Environmental, Energy, and Food & Product Safety.

When you order our precision-designed, genuine PerkinElmer consumables and accessories, you can enjoy the peace of mind, ease of ordering, and best-in-class service. You'll get the results you need – accurately and on time. PerkinElmer selects only the highest quality products for our consumables portfolio and invests heavily to test and validate the quality of our products.

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French Africa	33 1 64 86 28 28	33 1 69 07 69 54
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Bulgaria	359 2 952 0301	359 2 952 3784
Croatia	385 1 2001 767	385 1 2001 724
Poland	48 22 310 88 00	48 22 310 88 01
Romania	40 21 316 2877	40 21 316 2876
Latvia	371 6755 1894	371 6755 1976
Lithuania	370 5 2638748	370 5 2638749
Hungary	36 1 251 1116	36 1 251 1461
Czech Republic	420 241 430 534	420 241 430 535
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Mexico	52 55 5337 0700	52 55 559 36223
Puerto Rico	787 783 3067	787 793 7198
United States	203-925-4600 *or* 800 762-4000	203-944-4904
Central America	52 55 5337 0700	52 55 559 36223

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	Telephone	Facsimile
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China - Beijing	86-10-58208166	86-10-58208155
China - Chengdu	86-28-8678 2887 *or* 86-28-8678 2662 *or* 86-28-86783530	86-28-8678 2522
China - Wuhan	86-27-8732-2732 *or* 86-27-8732-2756 *or* 86-27-8732- 2826	86-27-8732-2685
China - Shenyang	86-24-2256-6158	86-24-2256-6153
China - Guangzhou	86-20-8363 3179	86-20-8363 3579
Hong Kong	852-2620-1881	852-2620-1238
India - Mumbai	022- 6760 1700	022 - 6760 1791
Indonesia	62-21-55960245-48	62-21-55960167
Japan - Yokahama	81-45-339-5861	81-45-339-5871
Japan - Osaka	81-6-6386-6004	81-6-6386-7009
Japan - Kyushu	81-92-473-7001	81-92-473-8353
Japan - Tokyo	81-3-3866-2647	81-3-3866-2652
Korea	82 2 868 5350	82 2 868 4343
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New Zealand	64-21-751-007 *or* 0800 776 767	64-9-966-2955 *or* 0800 776 000
Philippines	(+63-2) 637 0180	(+63-2) 910 1168
Singapore	65-67799555	65-68726595
Taiwan - Taipei	886-2-27647199	886-2-27647209
Taiwan - Kaohsiung	886-7-5521030	886-7-05543402
Thailand	662-3197901	662-3197900
Vietnam - Hanoi	(84) 4 7472259	(84) 4 7472260
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Turkey - Istanbul	90 212 212 5566	90 212 212 2829
Israel	972-3-9777000	972-3-9777001
Malta	356 21 344 345	356 21 343 952
Portugal	351 21 782 60 30	351 21 782 60 39
Greece - Hellas	30 2310 322525	30 2310 321912
Greece - Athens	30 210 779 5980	30 21 771 6932
Iceland	354 568 8533	354 568 0304

Middle East

	Telephone	Facsimile
Bahrain	971 4 883 0233	971 4 883 0133
Kingdom of Saudi Arabia - Central	966 1 4793000	966 1 4771374
Kingdom of Saudi Arabia - East	966 3 8475299	966 3 8475296
Kingdom of Saudi Arabia - West	966 2 6720888	966 2 6725664
Kuwait	965 246 10 480	965 246 10 488/9
Oman	968 248 14752 *or* 99269420	968 248 13924
Pakistan	92 21 5345581 *or* 5340747 *or* 52417934 *or* 53460578	92 21 5345582
Qatar	974 4654563	974 4652256
Republic of South Africa	27 11 794 4430	27 11 794 2160
United Arab Emirates	971 4 883 0233	971 4 883 0133
Yemen	967 234 5073	967 234 0504

Western Europe

	Telephone	Facsimile
Austria	0800 111 933	0800 111 934
Belgium	0800 40858	0800 40859
Denmark	80 88 42 36	80 88 42 37
Estonia	372 7 383 330	372 7 383 360
Finland	358 (0)2 267 8111	358 (0)2 267 8599
France	0805 111 333	0805 111 334
Germany	0800 1 81 00 32	0800 0 00 66 79
Italy	800 906 642 *or* 39 039 2383-1	39 039 2383 490
Luxembourg	0800 26588	0800 26589
Netherlands	0800 0234490	0800 0234491
Norway	800 18 854	800 18 855
Republic of Ireland	1800 932 886	1800 932 884
Spain	918 061 200 *or* 800 099 164	918 040 414 *or* 800 099 165
Sweden	0200 887 520	0200 887 521
Switzerland	0800 000 015	0800 000 016
United Kingdom	0800-89 60 46	0800-89 17 14

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

Ordering Information

Order Online

Place your order online at:
www.perkinelmer.com/supplies

Online ordering is currently available in Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Luxemburg, the Netherlands, Norway, Puerto Rico, Spain, Sweden, Switzerland, the United Kingdom and the United States.

Order by Phone, Fax or E-mail

Please contact your local PerkinElmer Customer Care Representative. See local office listings to the left. Or visit **www.perkinelmer.com/lasoffices.**

Order by Mail

Visit us online at **www.perkinelmer.com/lasoffices** to obtain the correct address for mailing your company Purchase Order.

Return Goods Policy

Before returning any item to PerkinElmer, please obtain a Return Authorization Number from a customer service representative. Call your local PerkinElmer office and please have the following information ready:

- Our Order Number or your Purchase Order Number
- The PerkinElmer part numbers of the items that you wish to return
- Reason for return

Our customer service representative will provide you with a Return Authorization Number and the return address. We cannot accept any returns without a Return Authorization Number. Policy may vary. Please contact your local PerkinElmer representative for details.

Technical Support

For technical assistance, please contact your local PerkinElmer Customer Care Representative. See local office listings to the left.

Check with your local PerkinElmer Customer Care center for current pricing.

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www.perkinelmer.com/terms

Table of Contents

Atomic Absorption

HCL and EDL Lamps 4–9
Burner System Components 10–11
Nebulizers/Nebulizer Components 12–14
Graphite Furnace Supplies 15
HGA Graphite 18–19
THGA Graphite 20–21

Inductively Coupled Plasma – OES

Nebulizers 22–23
Spray Chambers 24–25
Torches 26–27
Injectors 28
Sample Introduction Supplies 29

Inductively Coupled Plasma – MS

Nebulizers 30–31
Spray Chambers 32–33
Injectors 34
Torches 35
Mass Spectrometer Hardware 36
Cones 37
Sample Introduction Spares Kits 38

Atomic Spectroscopy

Website 39
Service Plans 40
Line Conditioners 41
Autosampler Supplies 43–45
Flow Injection Supplies 46–47
Tubing 48
Laboratory Products 49–51
Standards 52–57
Sample Preparation Blocks 58–59

High quality **1.5" Lamps** designed for any **Atomic Absorption Instrument**

Features and Benefits

- **Experts:** Expertise designing and manufacturing quality lamps for over 40 years. A brand you can trust.
- **Compatibility:** Compatible with other manufacturer's instruments — tested and approved.
- **Lifetime:** Long lifetime and performance. As the world's leading AA supplier, we know how to build lamps that provide maximum light output and spectral purity for optimum performance.
- **Quality:** Every lamp ships with Certificate of Quality
- **Testing:** Lamps are thoroughly tested before leaving the factory
- **Raw Materials:** Carefully selected materials used in the manufacturing of our lamps avoid spectral interference
- **Clean:** Lamps are built to stringent specifications in a state-of-the-art lamp manufacturing facility. Great quality every time.
- **Design:** Our design provides you with the low detection limits needed for your most difficult determinations.
- **Value:** Equivalent or better performance than your current lamp at a great price

Atomax™ 1.5" AA Lamps from PerkinElmer, the World Leader in Atomic Absorption

New Atomax 1.5" hollow cathode lamps are crafted to the same high standards that have made PerkinElmer 2" Lumina™ hollow cathode lamps the best in the industry. Drawing on more than 40 years of HCL design and manufacturing expertise, Atomax lamps now offer laboratories around the world a dependable, top-quality lighting source, regardless of the brand of AA instruments used.

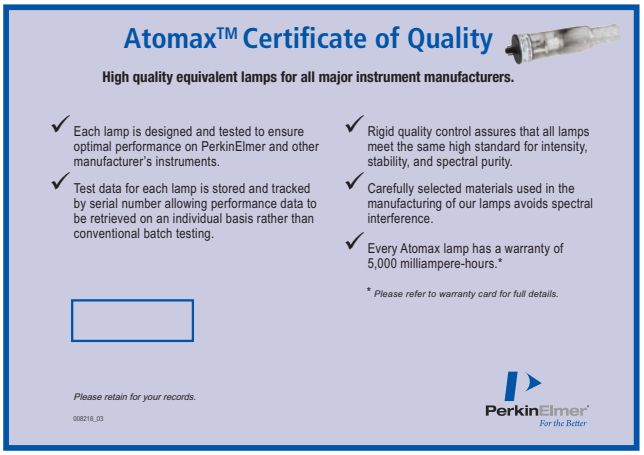
Value-Priced and Fully Compatible with 1.5" Format AA Instruments

PerkinElmer Atomax lamps are designed to fit most commercially available atomic absorption instruments including Varian, Thermo, Shimadzu, GBC, Analytic Jena, Hitachi and many more. Combining affordability and industry-wide compatibilty allows users of other brands of AAs to benefit from PerkinElmer's proven lamp performance. Each lamp is thoroughly tested to ensure that it will stand up to the most demanding requirements. Atomax lamps represent an exceptional value, and our money-back guarantee means you can order with complete confidence.

Tested and Validated for Highest Quality Performance

All 1.5" Atomax hollow cathode lamps are thoroughly tested to ensure maximum light output and spectral purity. Comparative results show that Atomax lamps provide equal or better performance than other AA lamps in the market. Precision engineered for high sensitivity, stable light output, low noise, and long life, you can rely on Atomax lamps for the accurate results you need.

Every Atomax lamp includes a certificate of quality, our promise of outstanding performance levels from the leader in AA.



Atomax™ Certificate of Quality

High quality equivalent lamps for all major instrument manufacturers.

- ✓ Each lamp is designed and tested to ensure optimal performance on PerkinElmer and other manufacturer's instruments.
- ✓ Test data for each lamp is stored and tracked by serial number allowing performance data to be retrieved on an individual basis rather than conventional batch testing.
- ✓ Rigid quality control assures that all lamps meet the same high standard for intensity, stability, and spectral purity.
- ✓ Carefully selected materials used in the manufacturing of our lamps avoids spectral interference.
- ✓ Every Atomax lamp has a warranty of 5,000 milliampere-hours.*

* *Please refer to warranty card for full details.*

Please retain for your records.

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PerkinElmer® For the Better

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

PerkinElmer offers a complete selection of Atomax 1.5" Single-Element Atomic Absorption Lamps

PerkinElmer Exclusive 6/24 Warranty*

Atomax™ Hollow Cathode Lamps

1. We warrant that during the first six months or after 5,000 milliampere-hours of operation, whichever comes first, from initial date of shipment, the lamps will meet or exceed the intensity and absorption specifications to which all new lamps are tested.
2. All our hollow cathode lamps are warranted to light and emit the spectra of the element indicated for two years or 5,000 milliampere hours of operation from the date of the shipment, whichever comes first.
3. If any lamp fails before the expiration of the warranty period, it will be replaced free of charge.

** The lamp warranty is void for lamps which sustain physical damage or are operated at power levels substantially above or below the power level recommended on the lamp label. The lamp warranty may vary in different countries.*

Element	Symbol	Part No.	Element	Symbol	Part No.	Element	Symbol	Part No.
Aluminum	Al	**N2025301**	Iridium	Ir	**N2025325**	Samarium	Sm	**N2025351**
Antimony	Sb	**N2025347**	Iron	Fe	**N2025317**	Scandium	Sc	**N2025348**
Arsenic	As	**N2025302**	Lanthanum	La	**N2025327**	Selenium	Se	**N2025349**
Barium	Ba	**N2025305**	Lead	Pb	**N2025339**	Silicon	Si	**N2025350**
Beryllium	Be	**N2025306**	Lithium	Li	**N2025328**	Silver	Ag	**N2025300**
Bismuth	Bi	**N2025307**	Lutetium	Lu	**N2025329**	Sodium	Na	**N2025333**
Boron	B	**N2025304**	Magnesium	Mg	**N2025330**	Strontium	Sr	**N2025353**
Cadmium	Cd	**N2025309**	Manganese	Mn	**N2025331**	Tantalum	Ta	**N2025354**
Calcium	Ca	**N2025308**	Mercury	Hg	**N2025322**	Terbium	Tb	**N2025355**
Cesium	Cs	**N2025312**	Molybdenum	Mo	**N2025332**	Tellurium	Te	**N2025356**
Chromium	Cr	**N2025311**	Neodymium	Nd	**N2025335**	Thallium	Tl	**N2025359**
Cobalt	Co	**N2025310**	Nickel	Ni	**N2025336**	Thorium	Th	**N2025357**
Copper	Cu	**N2025313**	Niobium	Nb	**N2025334**	Thulium	Tm	**N2025360**
Dysprosium	Dy	**N2025314**	Osmium	Os	**N2025337**	Tin	Sn	**N2025352**
Erbium	Er	**N2025315**	Palladium	Pd	**N2025340**	Titanium	Ti	**N2025358**
Europium	Eu	**N2025316**	Phosphorus	P	**N2025338**	Tungsten	W	**N2025362**
Gadolinium	Gd	**N2025319**	Platinum	Pt	**N2025342**	Vanadium	V	**N2025361**
Gallium	Ga	**N2025318**	Potassium	K	**N2025326**	Ytterbium	Yb	**N2025364**
Germanium	Ge	**N2025320**	Praseodymium	Pr	**N2025341**	Yttrium	Y	**N2025363**
Gold	Au	**N2025303**	Rhenium	Re	**N2025344**	Zinc	Zn	**N2025365**
Hafnium	Hf	**N2025321**	Ruthenium	Ru	**N2025346**	Zirconium	Zr	**N2025366**
Holmium	Ho	**N2025323**	Rhodium	Rh	**N2025345**			
Indium	In	**N2025324**	Rubidium	Rb	**N2025343**			

AAnalyst 50

The AAnalyst 50 is an entry-level AA that offers double-beam technology to save laboratories time when analyzing a high volume of samples. The instrument is an intuitive, cost-effective solution for routine metals analysis laboratories in a variety of markets ranging from academia to mining and plating. The double-beam system allows shorter warm-up times, improved signal stability and fewer operator adjustments than a single-beam system.

Part No.
N2010520

Please see:
www.perkinelmer.com/atomax
for more details

PerkinElmer AAnalyst 50

PerkinElmer
For the Better

PerkinElmer has 40 years of expertise designing and manufacturing Hollow Cathode Lamps

Every genuine PerkinElmer Lumina Lamp is designed for use with and tested on, our spectrometers to assure compatibility and the highest performance

To prolong the life of a Lumina Hollow Cathode Lamp (HCL), we produce lamps with larger internal volume so that a greater supply of fill gas at optimum pressure is available. The larger the lamp, the greater the inert gas volume — and the longer the lamp lifetime.

PerkinElmer offers a wide range of single-element and multi-element HCLs, which are ideal for determining most elements by atomic absorption spectroscopy.

Features and Benefits

- **Long Life:** PerkinElmer's larger lamp volume results in longer lamp lifetime
- **Automation:** PerkinElmer coded lamps allow automatic setup
- **Easy Installation:** It's as simple as sliding the lamp into the instrument's lamp bracket or turret
- **Complete Compatibility:** Lumina hollow cathode lamps can be used with PerkinElmer's entire range of atomic absorption spectrometers
- **Testing:** Every lamp is thoroughly tested before leaving the factory
- **Quality:** Carefully selected materials used in the manufacturing of our lamps avoid spectral interference
- **Design:** Our design provides you with the low detection limits needed for your most difficult determinations
- **Selection:** PerkinElmer offers a wide selection of single-element and multi-element lamps
- **Easy To Order:** It's easy to find the right lamp for your analytical needs — simply use the selection charts on this page or visit our website for a complete listing
- **Warranty:** The performance of every PerkinElmer lamp is fully warranted*

Lumina Single-Element Hollow Cathode Lamps

Element Name	Element Symbol	Lumina Lamp Part No.	Lumina Lamp with Intensitron® Adapter Part No.
Aluminum	Al	**N3050103**	**N3050303**
Antimony	Sb	**N3050170**	**N3050370**
Arsenic	As	**N3050105**	**N3050305**
Bismuth	Bi	**N3050111**	**N3050311**
Cadmium	Cd	**N3050115**	**N3050315**
Calcium	Ca	**N3050114**	**N3050314**
Chromium	Cr	**N3050119**	**N3050319**
Cobalt	Co	**N3050118**	**N3050318**
Copper	Cu	**N3050121**	**N3050321**
Gold	Au	**N3050107**	**N3050307**
Iron	Fe	**N3050126**	**N3050326**
Lead	Pb	**N3050157**	**N3050357**
Magnesium	Mg	**N3050144**	**N3050344**
Manganese	Mn	**N3050145**	**N3050345**
Mercury	Hg	**N3050134**	**N3050334**
Molybdenum	Mo	**N3050146**	**N3050346**
Nickel	Ni	**N3050152**	**N3050352**
Palladium	Pd	**N3050158**	**N3050358**
Potassium	K	**N3050139**	**N3050339**
Selenium	Se	**N3050172**	**N3050372**
Silicon	Si	**N3050173**	**N3050373**
Silver	Ag	**N3050102**	**N3050302**
Sodium	Na	**N3050148**	**N3050348**
Strontium	Sr	**N3050176**	**N3050376**
Tin	Sn	**N3050175**	**N3050375**
Titanium	Ti	**N3050182**	**N3050382**
Zinc	Zn	**N3050191**	**N3050391**

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

Cathode Lamps for Atomic Absorption

Small Diameter Lamp Adapter Kit

Permits the use of small diameter 8-pin hollow cathode lamps.

Part No.
N3051050

PerkinElmer Exclusive 6/24 WARRANTY*

Lumina™ Hollow Cathode Lamps

1. We warrant that during the first six months or after 5,000 milliampere-hours of operation, whichever comes first, from initial date of shipment, the lamps will meet or exceed the intensity and absorption specifications to which all new lamps are tested.
2. All our hollow cathode lamps are warranted to light and emit the spectra of the element indicated for two years or 5,000 milliampere-hours of operation from the date of the shipment, whichever comes first.
3. If any lamp fails before the expiration of the warranty period, it will be replaced free of charge.

** The lamp warranty is void for lamps which sustain physical damage or are operated at power levels substantially above or below the power level recommended on the lamp label. The lamp warranty may vary in different countries.*

For our complete listing of lamps and adapters, please visit:
www.perkinelmer.com/aasupplies

SPECIAL SAVINGS OFFERS from PerkinElmer!

Save on Hollow Cathode Lamps

when you purchase 2 or more!

Please contact your local sales office for more details.

Delivering Enhanced Value and Outstanding Savings on the products you use most!

Lumina Multi-Element Hollow Cathode Lamps

Element Name	Element Symbol	Lumina Lamp Part No.	Lumina Lamp with Intensitron® Adapter Part No.
Two-element Lamps			
Calcium, Magnesium	Ca, Mg	N3050202	N3050402
Potassium, Sodium	K, Na	N3050204	N3050404
Three-element Lamps			
Calcium, Magnesium, Zinc	Ca, Mg, Zn	N3050208	N3050408
Copper, Iron, Nickel	Cu, Fe, Ni	N3050209	N3050409
Four-element Lamps			
Copper, Iron, Manganese, Zinc	Cu, Fe, Mn, Zn	N3050212	N3050412
Five-element Lamps			
Silver, Chromium, Copper, Iron, Nickel	Ag, Cr, Cu, Fe, Ni	N3050213	N3050413
Cobalt, Chromium, Copper, Manganese, Nickel	Co, Cr, Cu, Mn, Ni	N3050214	N3050414
Six-element Lamps			
Cobalt, Chromium, Copper, Iron, Manganese, Nickel	Co, Cr, Cu, Fe, Mn, Ni	N3050217	N3050417
Seven-element Lamps			
Aluminum, Calcium, Copper, Iron, Magnesium, Silicon, Zinc	Al, Ca, Cu, Fe, Mg, Si, Zn	N3050218	N3050418

Electrodeless Discharge Lamps

are an ideal source for determining volatile elements

EDLs provide greater light output and longer life than corresponding HCLs

For certain elements such as Arsenic and Selenium, EDLs will also provide improved sensitivity and lower detection limits. System 2 electrodeless discharge lamps provide the optimized spectral output needed to get the maximum performance from PerkinElmer atomic absorption spectrometers.

Electrodeless Discharge Lamps for greater brightness

EDLs are typically much brighter and, in some cases, provide better sensitivity than comparable HCLs. EDLs are preferred for certain volatile elements. They offer better precision and lower detection limits for analyses that are “noisy” due to weak hollow cathode emission. PerkinElmer System 2 EDLs consist of the element or a salt of the element sealed in a quartz bulb containing an inert gas atmosphere. When an RF field of sufficient power is applied, the inert gas is ionized and the coupled energy vaporizes the element and excites the atoms inside the bulb, resulting in the emission of the characteristic spectrum.

PerkinElmer’s System 2 EDLs consist of two major components: a dual-channel power supply with matched dual RF driver assemblies, which allows simultaneous, independent operation of two EDLs, and the interchangeable lamp sleeves. The lamp sleeve contains the pre-aligned bulb for the element of interest. The sleeve has the same exterior dimensions as the PerkinElmer HCLs, allowing System 2 EDLs to be used in the same lamp mounts and turrets.

- System 2 EDLs are as easy to use as an HCL. Just install the lamp, turn it on, and set the current. Changing lamps requires only seconds because the pre-aligned bulbs require no additional adjustment.

To ensure operator safety, a built-in interlock prevents lamp operation if the lamp is not properly installed.

Electrodeless Discharge Lamps

Element Name	Element Symbol	System 2 EDL Part No.	AAnalyst Coded Intensitron® Adapter Part No.
Antimony	Sb	**N3050670**	**N3050869**
Arsenic	As	**N3050605**	**N3050860**
Bismuth	Bi	**N3050611**	**N3050861**
Cadmium	Cd	**N3050615**	**N3050862**
Cesium	Cs	**N3050620**	**N3050863**
Germanium	Ge	**N3050630**	**N3050864**
Lead	Pb	**N3050657**	**N3050867**
Mercury	Hg	**N3050634**	**N3050865**
Phosphorus	P	**N3050655**	**N3050866**
Rubidium	Rb	**N3050664**	**N3050868**
Selenium	Se	**N3050672**	**N3050870**
Tellurium	Te	**N3050680**	**N3050872**
Thallium	Tl	**N3050683**	**N3050873**
Tin	Sn	**N3050675**	**N3050871**
Zinc	Zn	**N3050691**	**N3050874**

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

Maximum Intensity and Long Life

Features and Benefits

- **Brightness:** EDLs are much brighter and, in some cases, provide better sensitivity than comparable hollow cathode lamps
- **Precision:** EDLs offer lower detection limits and are preferred for analyses that are “noisy” due to weak hollow cathode emission
- **Long Life:** System 2 EDLs are long-lived for exceptional cost-effectiveness
- **Automation:** PerkinElmer coded lamps allow automatic set-up on systems with automated turret
- **Quality:** Carefully selected materials used in the manufacturing of our lamps avoid spectral interference
- **Testing:** Every lamp is thoroughly tested
- **Design:** Our design provides you with the low detection limits needed for your most difficult determinations
- **Warranty:** The performance of every PerkinElmer lamp is fully warranted*

The PerkinElmer Exclusive WARRANTY*

System 2 Electrodeless Discharge Lamps

1. We warrant that during the first six months or after 500 hours of operation, whichever comes first, from initial date of shipment, the lamps will meet or exceed the intensity and absorption specifications to which all new lamps are tested.
2. All our Electrodeless Discharge Lamps are warranted to light and emit the spectra of the element indicated for two years or 1,000 hours of operation from the initial date of shipment, whichever comes first.
3. If any lamp fails before the expiration of the warranty period, it will be replaced free of charge.

** The lamp warranty is void for lamps that sustain physical damage or are operated at power levels substantially above or below the power level recommended on the lamp label. The lamp warranty may vary in different countries.*

EDL Assemblies and Components

EDL Driver Assemblies

Description	Part No.
For AAnalyst™ 200/400	**N3150131**
For AAnalyst 600/700/800, SIMAA™ 4110 ZL (short cable)	**03030997**
For all models except AAnalyst 600/700/800, SIMAA 4110 ZL (long cable)	**03030793**

EDL Driver Components

Description	Part No.
Driver Assembly Adapter Cable Allows System 2 EDL Drivers (03030793 and 03030997) to be used on an AAnalyst 200/400	**N3150303**
Extension Cable Converts cable on the AAnalyst 600/700/800, SIMAA 4110 Z System 2 EDL Driver Assembly	**03030998**

PerkinElmer offers a full range of replacement **burner heads** and **mixing chambers**

An efficient burner system is essential for obtaining optimal performance from your AA instrument, and proper maintenance is required to obtain precise and accurate determinations.

Burner System Component Features

- 100% titanium burner heads, an exclusive PerkinElmer feature that provides maximum corrosion resistance when analyzing any type of sample
- Burner chambers constructed of inert, wettable plastic to allow for proper drainage of excess sample and to prevent burner carryover of previous analyses
- Multivaned flow spoilers remove large sample droplets from the nebulized spray and reduce susceptibility to analytical interference
- Gaskets designed for use with aqueous and organic samples. Choose from rubber O-rings for aqueous solutions or Corkprene or KALREZ® gaskets for organic solutions

Burner Heads

There are four burner heads available for use with the burner system. They are all made of solid titanium, which is corrosion resistant and free of most of the elements commonly determined by atomic absorption.

Single-slot Nitrous Oxide-acetylene 5 cm

The 5 cm nitrous oxide burner head is required for nitrous oxide-acetylene operation. This burner head can also be used with air-acetylene or rotated to provide reduced sensitivity.

Part No.
N0400100

Single-slot Air-acetylene 10 cm

The 10 cm burner head is designed to be used with the air-acetylene flame. Because of its long burner path length, it provides the best sensitivity for air-acetylene elements.

Part No.
N0400102

Single-slot Air-acetylene 5 cm

A 5 cm air-acetylene burner head is available for applications in which reduced sensitivity is required. It can be rotated to provide further sensitivity reduction, and it has a wide slot to prevent clogging.

Part No.
N0400101

Three-slot Air-acetylene 10 cm

The three-slot burner head is designed to be used when analyzing samples with high concentrations of dissolved solids. The three-slot burner head is not compatible with some older gas control systems.

Part No.
N0400103

Single-slot Nitrous Oxide-acetylene 5 cm

Single-slot Air-acetylene 10 cm

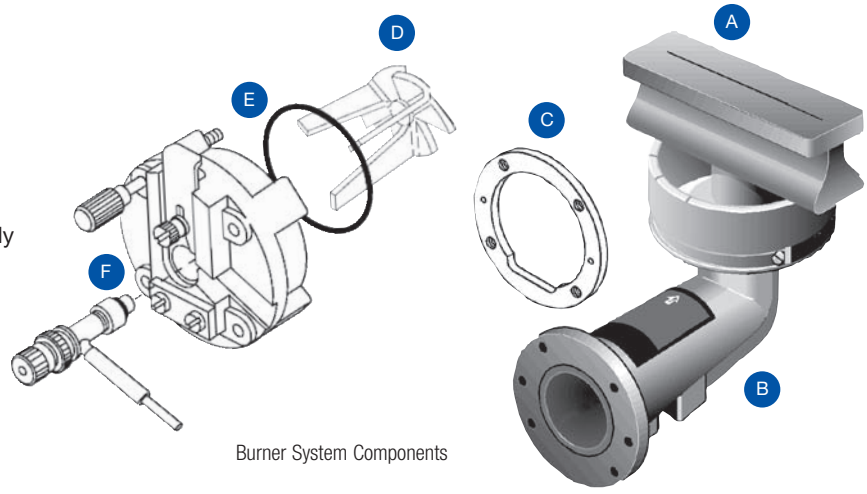
Single-slot Air-acetylene 5 cm

Three-slot Air-acetylene 10 cm

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

Burner System Components

- A Burner Head
- B Burner Mixing Chamber
- C Clamping Ring
- D Flow Spoiler
- E End Cap O-ring
- F End Cap Assembly



Burner System Components

For our complete listing of Burner System Components, please visit: www.perkinelmer.com/aasupplies

Burner Heads

Description	Length	Flame Type	*For AAnalyst 50/100/200/300/400/700/800* Part No.	*For 2280, 2380, 3030(B), 3100, 3110, 3300, 4000, 5000, 5100PC* Part No.	*For 1100(B), 2100, 4100* Part No.
Single-slot	5 cm	Nitrous Oxide-Acetylene	**N0400100**	**00400277**	**B0162669**
Single-slot	10 cm	Air-Acetylene	**N0400102**	**00400266**	**B0162668**
Three-slot	10 cm	Air-Acetylene	**N0400103**	**00400289**	
Single-slot	5 cm	Air-Acetylene	**N0400101**		

Burner System Components

Description	*For AAnalyst 50/100/200/300/400/700/800* Part No.	*For 2280, 2380, 3030(B), 3100, 3110, 3300, 4000, 5000, 5100PC* Part No.	*For 1100(B), 2100, 4100* Part No.
Burner Head O-Ring	**09902219**	**09902219**	**09902219**
Burner Mixing Chamber Assembly	**00570948**	**00570948**	**00570948**
Clamping Ring	**N0401171**	**00572616**	
Flow Spoiler	**00572561**	**00572561**	**00572561**
End Cap O-Ring Standard	**09902147**	**09902147**	**B0158690**
End Cap O-Ring Organics (Corkprene)	**00472014**	**00472014**	**B0158598**
End Cap O-Ring Organics (KALREZ®)	**09921044**		
End Cap Assembly	**00570984**		
End Cap Assembly	**N0370392**	**00570984***	**B0151573**
Burner Gasket Kit	**00470988**	**00470988**	
Drain Tubing	**02507987**		
Impact Bead	**00572615**	**00572615**	**B0158616**
Seal Plug	**00572624**	**00572624**	
O-Ring (¼ in 6 mm i.d.)	**09902240**	**09902240**	
O-Ring (⅛ in 3 mm i.d.)	**09902236**	**09902236**	
Burner Drain Assembly (for 50/200/400)	**N0400058**		
Burner Drain Assembly for Organic Solutions (for 50/200/400)	**N3150232**		
Burner Drain Assembly (for 700/800)	**N2011074**		
Burner Drain Assembly for Organic Solutions (for 700/800)	**N3150230**		
Burner Drain Assembly		**00470391**	
Burner Drain Assembly (for 3100, 3110, 3300)		**N0370149**	
Cable and Pin Assembly (for Air-Acetylene)		**00400276**	**00400276**
Cable and Pin Assembly (for Nitrous Oxide)		**00400275**	**00400275**
Hold-Down Cable		**03030130**	**03030130**
Burner Gasket Kit (for aqueous solutions)			**B0155546**
Burner Gasket Kit (for organic solutions)			**B0173404**
Burner Head Cleaning Tool	**03031573**	**03031573**	**03031573**

** A different End Cap Assembly (N0370392), is required for use with the High-Sensitivity Nebulizer.*

PerkinElmer nebulizers are available in a variety of configurations to **meet** all of your **analytical needs**

High-Sensitivity Nebulizer with Pt/Ir Capillary

The nebulizer is one of the most important components in a flame AA spectrometer

Sample solutions, with differing physical properties, must be converted into an aerosol of small, similarly-sized droplets. This places great demands on the design of the nebulizer.

All PerkinElmer nebulizer assemblies are adjustable for optimized performance and include easily-interchanged capillary assemblies for simple, reduced-cost maintenance. PerkinElmer nebulizers are manufactured to exacting tolerances to provide maximum sensitivity. Universal, or, "standard" nebulizers are less expensive than the corresponding high-sensitivity nebulizers and provide a lower level of sensitivity. The universal, or, "standard" nebulizers typically provide better precision and reduced "carryover" interference when used with solutions that contain high dissolved solids content of higher analyte concentrations.

High-Sensitivity Nebulizer with Pt/Ir Capillary

For AAnalyst 50/200/400/700*/800*

Our new high-precision nebulizer maximizes stability and sensitivity, even for the toughest matrices. The nebulizer is adjustable so a wide variety of sample matrices — aqueous or organic, acid or base, diluted or concentrated — can be analyzed under optimum conditions. This high-sensitivity nebulizer is fabricated entirely of inert plastic materials for maximum performance and corrosion resistance.

**Requires End Cap Assembly (N0370392).*

Nebulizer Assembly

Description	Part No.
Nebulizer Assembly	**N3150188**
Capillary Assembly	**B3150458**
Impact Bead	**B0505086**
Nebulizer Spacer	**B3150531**
Tubing Assembly (1,000 mm)	**B0191060**
For connecting Autosampler AS-90/AS-93*plus*	

High-Sensitivity Nebulizer

- Provides maximum sensitivity, precision and freedom from analytical interferences
- The high-sensitivity nebulizer with platinum/iridium capillary is for most solutions, but not for precious metal samples containing aqua regia
- High-sensitivity nebulizer with tantalum capillary used for solutions containing aqua regia

Nebulizer Assembly with Pt/Ir Capillary

Description	Part No.
For AA100/300/700/800/5100PC/5000/3300/3110/3100	**B0505480**
For 4100/2100/1100(B)	**B0501029**

Nebulizer Assembly with Tantalum Capillary

Description	Part No.
For AA100/300/700/800/5100PC/5000/3300/3110/3100	**B0505590**
For 4100/2100/1100(B)	**B0505589**

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

Corrosion-Resistant Nebulizers

- For all solutions containing hydrofluoric acid or aqua regia
- For all solutions containing high concentrations of dissolved solids
- All internal components in contact with solutions are constructed of plastic to resist corrosion from concentrated acids
- Reduced performance compared with stainless steel or platinum/rhodium nebulizers

Nebulizer Assembly

Description	Part No.
For AA100/300/700/800/5100PC/5000/3300/3110/3100	**03030404**
For 4100/2100/1100(B)	**N3110110**

Platinum Alloy Nebulizers

- Recommended for most concentrated acids containing >5% acid
- Includes a platinum alloy needle assembly and a tantalum venturi
- Provides maximum chemical resistance
- Not suitable for use with aqua regia or hydrofluoric acid

Nebulizer Assembly

Description	Part No.
For AA50/100/200/300/400/700/800/5100PC/5000/3300/3110/3100*	**03030299**
For 4100/2100/1100(B)	**N3110111**

** Requires End Cap Assembly (00570984)*

GemTip™ Nebulizers

- Corrosion-resistant and can be used to aspirate almost all solutions, even those solutions containing a high percentage of acids
- Designed to obtain optimum sensitivity, detection limits and precision with flame atomic absorption for both air-acetylene and nitrous oxide-acetylene flames

Nebulizer Assembly

Description	Part No.
For AA100/300/700/800/5100PC/5000/3300/3110/3100	**N0370394**

High-Sensitivity Nebulizer Assembly

Description	Part No.
For AA100/300/700/800/5100PC/5000/3300/3110/3100	**N0370393**

Stainless Steel Nebulizers

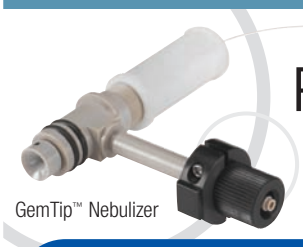
- For most solutions containing <5% acid, providing exceptional performance and durability
- Excellent performance (precision and signal-to-noise ratio)

Nebulizer Assembly

Description	Part No.
For AA50/100/200/300/400/700/800/5100PC/5000/3300/3110/3100*	**03030352**
For 4100/2100/1100(B)	**N3110109**

** Requires End Cap Assembly (00570984)*

See the next page for a **full selection** of **Nebulizer parts**


GemTip™ Nebulizer

PerkinElmer offers a **full selection** of **parts** for your nebulizer

Plastic Body Nebulizers

High-Sensitivity Nebulizer with Pt/Ir Capillary[1]

Description	*For AAnalyst 50/200/400* Part No.	*For AAnalyst 100/300/700/800, 5100 PC, 5000, 3300, 3100* Part No.	*For 4100, 2100, 1100(B)* Part No.
Nebulizer Assembly	**N3150188**	**B0505480**[2]	**B0501029**[2]
Capillary Assembly	**B3150458**	**B0501022**	**B0501022**
Impact Bead	**B0505086**	**B0505086**	**B0505086**
Nebulizer Spacer	**B3150531**		
Nebulizer End Cap		**B0501026**	**B0501026**
Locking Ring		**B0501025**	**B0501025**
Nebulizer Body		**B0506666**	**B0506668**

High-Sensitivity Nebulizer with Tantalum Capillary[1]

Description	Part No.	Part No.
Nebulizer Assembly[2]	**B0505590**	**B0505589**
Capillary Assembly	**B0505588**	**B0505588**
Impact Bead	**B0505086**	**B0505086**
Nebulizer End Cap	**B0501026**	**B0501026**
Locking Ring	**B0501025**	**B0501025**
Nebulizer Body	**B0506666**	**B0506668**

GemTip™ Nebulizer

Description	Part No.	Part No.
GemTip Nebulizer Assembly	**N0370394**	
High-Sensitivity GemTip Nebulizer Assembly	**N0370393**	

Nebulizer Capillary Tubing

Nebulizer Cleaning Wires

Nebulizer Grease

Nebulizer Capillary Tubing

10 ft (3 m) length of 0.58 mm i.d. polyethylene tubing, for use with the stainless steel, platinum/rhodium and GemTip™ Nebulizers.

Part No.
09908265

Nebulizer Cleaning Wires

Made of soft alloy copper, these cleaning wires are specially deburred to prevent scratching the orifices and internal components of the nebulizers while cleaning.

Pkg.	Part No.
5	**03030135**

Nebulizer Grease

A small quantity of Apiezon®-L grease helps to lubricate the o-ring seals for reassembly and ensures leak-proof operation.

Part No.
03030405

Metal Body Nebulizers

Stainless Steel Nebulizer[3]

Description	*For AAnalyst 100/300/700/800, 5100 PC, 5000, 3300, 3100* Part No.	*For 4100, 2100, 1100(B)* Part No.
Nebulizer Assembly	**03030352**	**N3110109**
Capillary Assembly	**03030354**	**03030354**
Venturi	**03031810**	**N3111159**
O-Ring Kit	**N9300065**	**N9300066**

Corrosion-Resistant Nebulizer[3]

Description	Part No.	Part No.
Nebulizer Assembly	**03030404**	**N3110110**
Capillary Assembly	**03030402**	**03030402**
Capillary Assembly For AS-51 or AS-50	**00570957**	**00570957**
Venturi	**03031920**	**03031920**
O-Ring Kit	**N9300065**	**N9300066**

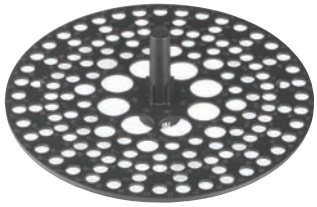
Platinum Alloy Nebulizer[3]

Description	Part No.	Part No.
Nebulizer Assembly	**03030299**	**N3110111**
Capillary Assembly[4]	**03030433**	**03030433**
Venturi	**03033124**	**N3111158**
O-Ring Kit	**N9300065**	**N9300066**

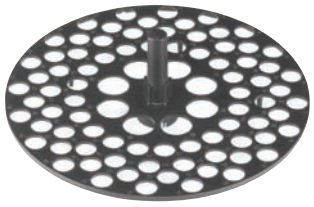
[1] Inert plastic body with red adjusting ring
[2] Requires End Cap Assembly (N0370392)
[3] Stainless steel body
[4] Etched with a "P" for identification

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

Autosampler **Sample Cups** and **Supplies**



148-Position Tray



88-Position Tray

Autosampler Trays

For a quick change to another series of samples, a second sample tray is recommended.

For Model AS-800

Description	Part No.
88-Position Tray, Polypropylene 80 sample locations for 2.0, 2.5 or 3.5 mL sample cups. Each sample tray also has eight positions for 7.0 mL reagent containers.	**B3001507**
148-Position Tray, Polypropylene 132 sample locations for 1.2 mL sample cups and eight locations for 2.5 or 3.5 mL sample cups. Each sample tray also has eight positions for 7.0 mL reagent containers. One is provided with the autosampler.	**B3001506**
Cover	**B3001505**
Arm	**B3002046**

For Models AS-60/AS-70/AS-71/AS-72

Description	Part No.
40-Position Tray, Plastic 35 sample locations for 2.0 or 3.5 mL sample cups. Each sample tray has five positions for 30 mL cloverleaf-shaped reagent containers.	**B0510417**

For Models AS-71 and AS-72

Description	Part No.
80-Position Tray, Plastic 75 sample locations for 1.2 mL sample cups. Each sample tray has five positions for 30 mL cloverleaf-shaped reagent containers.	**B0510404**

Sampling Capillaries

Made of PTFE, these are capable of pipetting a variety of corrosive matrices and organic solutions.

Benefits

- Works well with solvent and acid-resistant sampling components
- PTFE pipette tips and capillaries reduce contamination
- Easy replacement

Description	Part No.
For Models AS-60/AS-70/AS-71/AS-72/AS-800	**B0129258**

Quantity Discounts Available!

Special Savings offers from PerkinElmer!

Save when you purchase a pack of 1,000 **Autosampler Cups**

Please contact your local sales office for more details.

Graphite Furnace Autosampler Cups

Sample cups are of heavy-duty construction to prevent cracking or tipping. Their conical design allows for use of nearly the entire sample.

Your choice of materials:

- **Polystyrene** – Clear, recommended for use with most aqueous solutions
- **Polyethylene** – Translucent, low-density, recommended for use with most aqueous and organic solutions
- **Teflon®** – Recommended for use with most concentrated acids including HF, and for analyses where the lowest detection levels are required
- **Polypropylene** – Translucent; preferred for most solvents

Volume	Compostition	Qty.	Part No.
1.2 mL*	Polypropylene	2,000	**B0510397**
2.5 mL	Polypropylene	1,000	**B3001566**
7.0 mL**	Polypropylene	100	**B3001567**
2.0 mL	Polyethylene	1,000	**B0087056**
2.0 mL	Polystyrene	1,000	**B0119079**
3.5 mL	Polystyrene	100	**B0129303**
2.0 mL	Teflon®	30	**B0087600**

** For use with AS-71/72/800. ** For use with AS-800.*

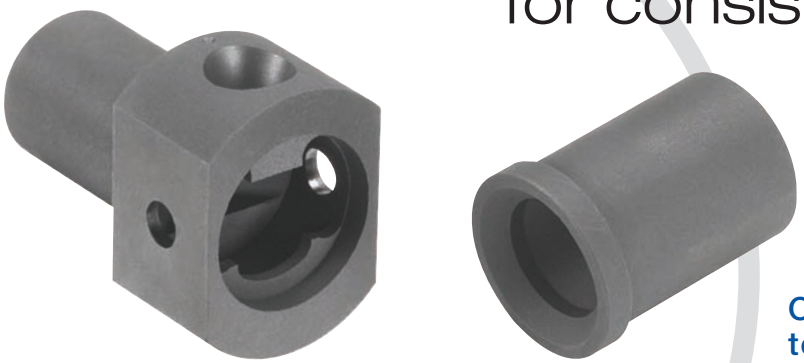
Reagent Containers

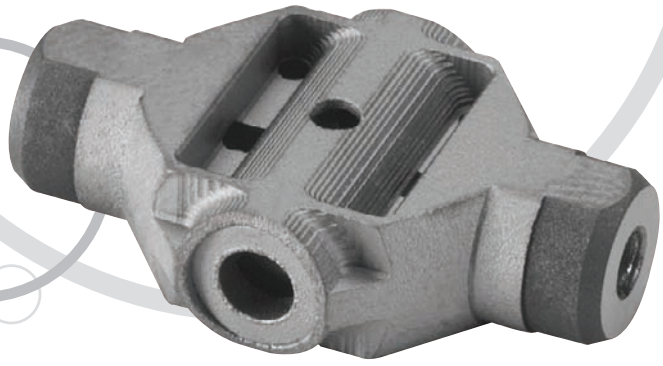
For blank solutions, reagent solutions or matrix modifiers.

Description	Part No.
Round Reagent Containers For Models AS-40/AS-60/AS-70/AS-71/AS-72. 25 mL polypropylene. Suitable for organic solutions.	**B0101164**
30 mL Polystyrene – Not for organic solutions.	**B0102332**
Cloverleaf-shaped Reagent Containers For Models AS-60/AS-70/AS-71/AS-72. 30 mL polypropylene.	**B0132799**

Rely on **PerkinElmer graphite** for consistent analytical results.

Every sample. Every day.





We start with an exclusive grade of graphite

The production of high-quality graphite components requires stringent quality control. Selection and careful control of raw materials are extremely important.

The composition and the microstructure of the base graphite material determine the resistivity of the tube and its heating characteristics. To ensure high quality and consistency, a specific high-density base graphite material has been developed for use with PerkinElmer graphite furnace systems. This base graphite material is used exclusively for the manufacturing of PerkinElmer's graphite components.

Our tubes are manufactured and tested to the highest quality specifications

During manufacturing, a comprehensive quality testing program, including extensive mechanical, electrical, thermal, and analytical testing procedures, is strictly followed. Each lot of graphite tubes is tested to demanding specifications for lifetime, sensitivity, and precision.

Extensive testing ensures that all graphite components shipped by PerkinElmer provide consistent lot-to-lot performance.

Our pyrolytic coating design is critical to achieving high performance

The specified thickness of pyrolytic coating applied to PerkinElmer graphite improves the total resistance of the graphite tube and the temperature distribution within the tube. Improper pyrolytic coating can shorten tube lifetime dramatically.

The microstructure and density of the surface are important parameters for the atomization kinetics of analyte elements. Irreproducible surface qualities will cause changes in the optimal drying, pyrolysis and atomization temperatures, peak shape, and characteristic mass. PerkinElmer's coating specification and quality control ensure consistency from tube to tube.

You can depend on our extensive experience

PerkinElmer has over three decades of experience in the design and development of graphite furnace systems and materials. Years of PerkinElmer development have yielded the best possible graphite for atomic absorption. Any other graphite has not been optimized for use with PerkinElmer instruments, and may yield inaccurate analytical results.

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

Graphite

Do not accept imitations

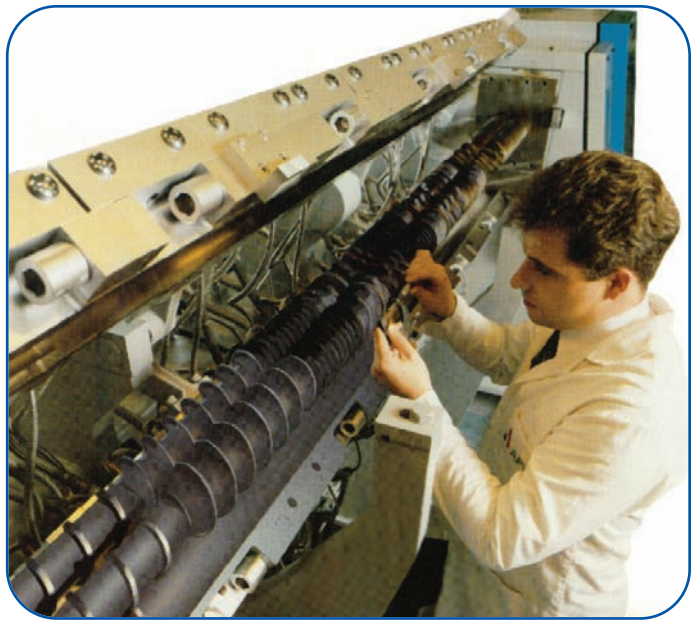
Graphite components offered by other companies often refer to the PerkinElmer part, implying that these components are made from the same material and provide equivalent performance. This is misleading, as these imitation components are not made from the same base graphite material, nor are they tested to the same demanding quality control specifications. The different base graphite material will alter the temperature calibration, the heating rates and the performance characteristics.

Rely on genuine PerkinElmer graphite

Today's analysts expect exceptional analytical performance from their graphite furnace atomic absorption spectrometers. That performance must be stable and reproducible from day to day with respect to sensitivity (characteristic mass), accuracy and precision.

The graphite tube, the heart of the graphite furnace, plays a vital role in the overall stability of an analysis. In order to assure stable analytical conditions from one atomization cycle to the next, and from graphite tube to graphite tube, all graphite parts — contacts, tubes and platforms — must be under strict quality control by both the instrument manufacturer and the graphite manufacturer. PerkinElmer graphite components continue to set the industry standard for quality.

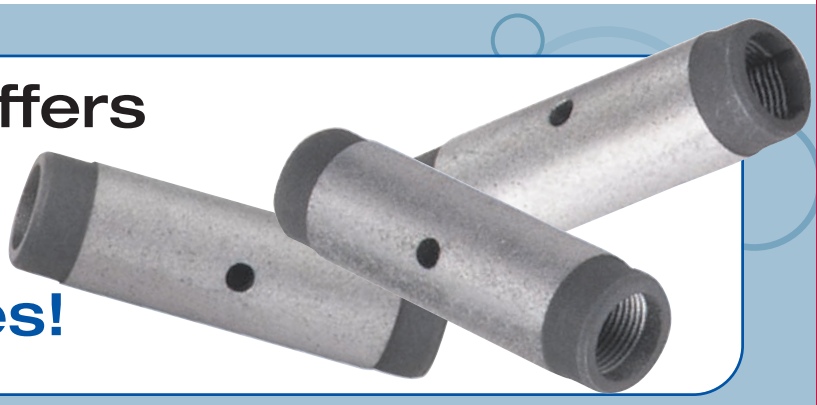
The proper performance, maintenance, and serviceability of your graphite furnace system can be assured only through the use of genuine, high-quality PerkinElmer graphite components.



How is high-quality graphite manufactured?

- Select carefully chosen raw materials that are exclusive to PerkinElmer
- Mill and mix the components with precision
- Utilize the proper pressing techniques
- Employ the correct heat treatments at carefully selected times
- Purify materials at multiple times throughout the process
- Apply special coating technology for pyrolytic products
- Test and qualify graphite against rigorous PerkinElmer standards
- Machine patented PerkinElmer designs using specialized techniques

Special Savings offers
from **PerkinElmer!**
Save on 20-packs of
HGA Graphite Tubes!
Please contact your local sales office for more details.



We have put **30 years** of **expertise** into the development of our **graphite tubes, contact cylinders** and **platforms**

PerkinElmer tubes are manufactured to the highest quality specifications

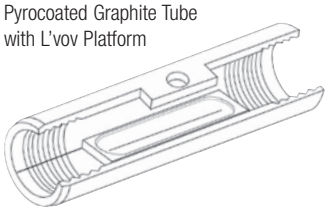
The production of high-quality graphite components requires stringent quality control. To ensure high quality and consistency, a specific grade of high-density base graphite material has been developed for PerkinElmer's exclusive use. This base graphite material is used for the manufacturing of all PerkinElmer graphite tubes.

Selection and careful control of raw materials are extremely important. The composition and the microstructure of the base graphite material determine the specific resistivity of the tube and its heating characteristics.

When you purchase graphite supplies from PerkinElmer, you get the results of our many years of experience with quality graphite parts.

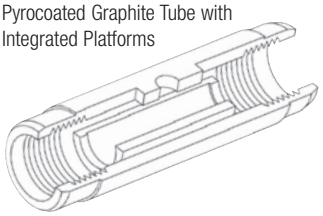
The proper performance, maintenance, and serviceability of our graphite furnace systems can be assured only through the use of genuine PerkinElmer graphite components.

Pyrocoated Graphite Tube with L'vov Platform



Cross-section of the PerkinElmer HGA graphite tube with manually inserted L'vov platform shown.

Pyrocoated Graphite Tube with Integrated Platforms



Cross-section of the PerkinElmer HGA graphite tube with integrated platform shown.

Pyrocoated Graphite Tubes

Grooved for use with L'vov Platforms

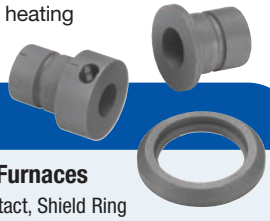
- Internally grooved to accept L'vov platforms. Does not include platform

Description	Part No.
5-pack	**B0137111**
20-pack	**B3001254**
50-pack	**B0109322**
100-pack	**N3110146**

Does not include platform.

Contact Cylinders

The graphite contact cylinders used in the HGA Graphite Furnace are engineered for a precise fit so that variations in electrical contact — which might affect the analytical performance — are reduced to a minimum. The graphite contacts are shaped so that they completely encase the graphite tube. Thus, the graphite tube is located in a defined inert environment, which ensures uniform heating conditions and long tube lifetime.



Contact Cylinders

For HGA-900/850/800/700/600/300 Furnaces

- Includes left-hand Contact, right-hand Contact, Shield Ring

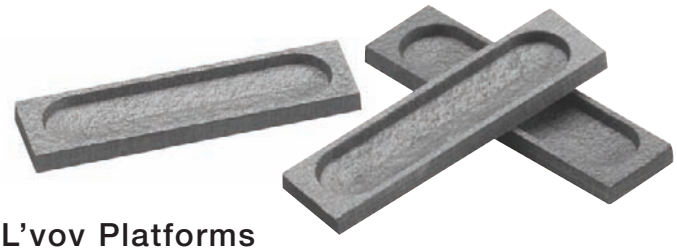
Description	Part No.
1 set	**B0128495**
5 sets	**B3130086**

For Zeeman Furnaces

- Includes left-hand Contact, right-hand Contact

Description	Part No.
1 set	**B0116823**
5 sets	**B0180361**

See **page 2** for ordering information and a complete listing of PerkinElmer offices.



L'vov Platforms

The L'vov platform is a small plate of solid pyrocoated graphite that is inserted into the graphite tube. It has a slight depression in the center, which can accommodate up to 50 µL of solution. The function of the L'vov platform is to isolate the sample from the tube walls to allow more reproducible atomization of the sample through indirect heating. The platform heats primarily by the radiation given off from the tube walls. Sample vaporization and atomization occur after the tube reaches a steady-state temperature.

L'vov Platforms

Use of the L'vov platform provides:

- Vaporization into a higher temperature gas atmosphere producing more free atoms, which reduce interferences
- Longer tube life because aggressive samples are only in contact with the solid pyrolytic graphite platform

Description	Part No.
5-pack	**B0137112**
10-pack	**B0121091**
20-pack	**B3001256**
50-pack	**B0109324**
100-pack	**N3110145**

Matrix Modifiers for Graphite Furnace AA

PerkinElmer provides you with the maximum performance and the lowest possible detection limits with our high-quality matrix modifiers.

PerkinElmer matrix modifiers thermally stabilize the analyte, allowing higher pyrolysis temperatures to be used, reducing background absorption, and eliminating potential interferences.

Modifiers	Concentration	Volume	Part No.
$Mg(NO_3)_2$	1% Mg (as nitrite)	100 mL	**B0190634**
Pd	1% Pd (as nitrite)	50 mL	**B0190635**
$NH_4H_2PO_4$	10% $NH_4H_2PO_4$	100 mL	**N9303445**

SPECIAL SAVINGS OFFERS from PerkinElmer!

Save on HGA Graphite Tube 20-packs!

Please contact your local sales office for more details.

Delivering Enhanced Value and Outstanding Savings on the products you use most!

Pyrocoated Graphite Tubes with Integrated Platforms

Graphite tubes with integrated platforms are machined from one piece of graphite and are totally pyrocoated, providing exceptional tube-to-tube reproducibility. The spherically-shaped platform accommodates up to 50 µL of sample.

PerkinElmer Exclusive!

Pyrocoated Graphite Tubes with Integrated Platforms

- Provide STPF conditions for volatile and nonvolatile refractory elements due to the significantly higher heating rates of tube and platform, which can be used for all elements
- Offer an extra measure of convenience versus manually inserting a separate platform
- Provide longer life with many aggressive sample matrices, such as concentrated acids

Pyrocoated Graphite Tubes with Integrated Platforms

Description	Part No.
5-pack	**B3001262**
20-pack	**B3001264**
40-pack	**N9300651**

Pyrocoated Graphite Tubes**

Description	Part No.
5-pack	**B0105197**
10-pack	**B0135653**
20-pack	**B3000342**
50-pack	**B0091504**

Uncoated Graphite Tubes**

Description	Part No.
5-pack	**B0137113**
20-pack	**B3001253**
50-pack	**B0070699**

***Not compatible with L'vov platforms*

Our **exclusive design** ensures **even heating** over the entire length of the tube

Standard THGA Graphite Tubes

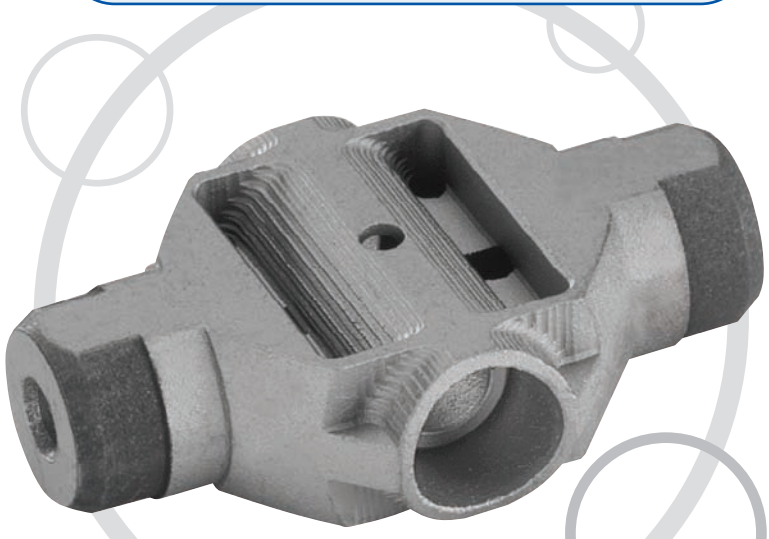
Today's analysts expect exceptional analytical performance from their graphite furnace atomic absorption spectrometers. That performance must be reproducible from day to day with respect to sensitivity (characteristic mass), accuracy and precision.

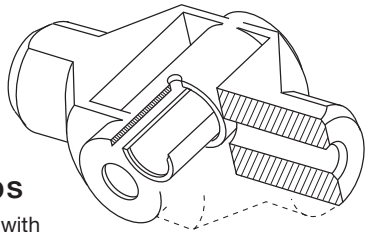
The graphite tube, the heart of the graphite furnace, plays a vital role in the overall stability of an analysis. In order to assure stable analytical conditions from one atomization cycle to the next, and from graphite tube to graphite tube, all graphite parts — contacts, tubes and platforms — must be subject to strict quality control by both the instrument manufacturer and the graphite manufacturer.

PerkinElmer's unique, transversely-heated graphite tube includes an integrated platform. The exceptionally uniform temperature distribution obtained with transverse heating significantly reduces or eliminates condensation of the sample matrix components and "memory" effects, and improves the atomization efficiency for refractory elements.

Standard THGA Graphite Tubes

Description	Part No.
5-pack	**B3000641**
20-pack	**B0504033**
100-pack	**N3110147**





Standard THGA Graphite Tubes with End Caps

For improved characteristic mass with volatile and medium refractory elements such as Ag, As, Cd, Co, Cr, Cu, Pb, Se and Tl, the THGA graphite tubes with end caps are recommended. Note: THGA graphite tubes with end caps are not recommended for refractory elements such as V or Ba.

Standard THGA Graphite Tubes w/End Caps

- Improved detection limits for volatile and medium refractory elements
- Faster drying for complex matrices due to enlarged dosing hole

Description	Part No.
5-pack	**B3000653**
20-pack	**B3000655**

For our complete listing of Graphite Furnace Supplies, please visit:
www.perkinelmer.com/aasupplies

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

THGA Contact Cylinders

These graphite contact cylinders are engineered for a precise fit so that variations in electrical contact — which might affect the analytical performance — are reduced to a minimum. Contact cylinders with a modified injection port area help to minimize condensation and improve analytical performance with difficult matrices.

Standard THGA Graphite Contact Cylinders

Description	Part No.
1 pair	**B0504035**
5 pairs	**B0504036**

Modified THGA Contact Cylinders

Description	Part No.
1 pair	**B3002103**
5 pairs	**B3002102**

Accessories and Spare Parts

Description	Part No.
O-Ring (behind Contact Cylinder, front and back)	**B0500748**
Contact Cylinder Removal Tools	**B3120405**

THGA Instrument Mirror

Used to optimize drying temperatures and times.

Part No.
B0851900

Matrix Modifiers for Graphite Furnace AA

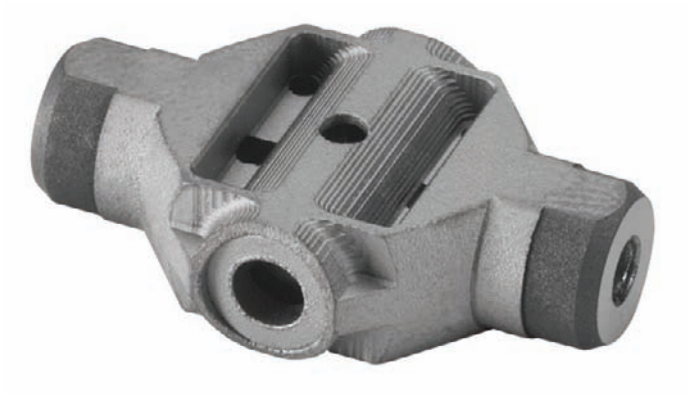
PerkinElmer provides you with the maximum performance and the lowest possible detection limits with our high-quality matrix modifiers.

PerkinElmer matrix modifiers thermally stabilize the analyte, allowing higher pyrolysis temperatures to be used, reducing background absorption, and eliminating potential interferences.

Matrix Modifiers

- High-purity compounds minimize the risk of contamination
- Optimum graphite furnace program can be used due to reduced analyte volatility
- Convenient, ready to use

Modifiers	Concentration	Volume	Part No.
$Mg(NO_3)_2$	1% Mg (as nitrite)	100 mL	**B0190634**
Pd	1% Pd (as nitrite)	50 mL	**B0190635**
$NH_4H_2PO_4$	10% $NH_4H_2PO_4$	100 mL	**N9303445**



UltraClean THGA Graphite Tubes

For the lowest possible detection limits, residual contaminant levels may not be low enough to meet your requirements. For the most demanding analyses, PerkinElmer offers UltraClean THGA graphite tubes — delivering exceptionally low levels of contamination due to advanced high-temperature gas-phase cleaning procedures. UltraClean graphite tubes offer unmatched analytical advantages for special applications such as the determination of extremely low traces of Na, Ca, Fe, Cr and Ni in ultra-clean reagents used in the semiconductor industry, and ultra-trace analyses of environmental, clinical, or food samples.

UltraClean THGA Graphite Tubes

Key Benefits

- UltraClean THGA graphite tubes have the lowest possible contamination levels due to extensive high-temperature gas-phase cleaning procedures
- UltraClean THGA graphite tubes are tested and specified for blank levels of Cr, Ni, V, Mo, Ti (<0.003 integrated absorbance units) and Na, Fe, Al, Si, Ca (<0.0005 integrated absorbance units)

Description	Part No.
5-pack	**B3140361**
20-pack	**B3140362**

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Save on Atomic Spectroscopy Standards

when you purchase 2 or more!

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Delivering Enhanced Value and Outstanding Savings on the products you use most!

Concentric Nebulizers offer high-quality sample introduction for a wide variety of applications

MEINHARD® Nebulizers

The MEINHARD® concentric glass nebulizer reflects exacting standards in design and manufacturing. Its advantages include simplicity of design and operation, reproducible and self-aligning aerosol and close fabrication control. They provide excellent sensitivity and precision for aqueous solutions and samples with few dissolved solids (less than 1%). MEINHARD® Nebulizers are self-aspirating and must not be used with solutions containing hydrofluoric acid. PerkinElmer offers three types for ICP-OES, MEINHARD® A, C and K. All require an end cap for use with Ryton® Scott spray chambers.

MEINHARD® Model	Application	Part No.
Type A	General purpose	**00472020**
Type C	High dissolved solids	**00472022**
Type K	Reduced flow and organics	**N0681574**

Description	Part No.
Liquid-End Connector Kit, 4 mm	**N0777414**
Nebulizer Clip for Meinhard Nebulizers	**N0777460**

End Cap for Concentric Glass Nebulizers

ICP Model	Part No.
Optima 2X00/3X00/4X00/5X00/7X00	**N0680504**

PEEK Mira Mist® Nebulizer

PEEK Mira Mist® Nebulizer

The Mira Mist® fits regular spray chambers as a direct replacement for glass concentric nebulizers. Its features include standard pressure (45 psi), low sample flow and enhanced parallel path design.

Description	Uptake Rate	Part No.
PEEK Mira Mist	0.2 to 2.5 mL/min	**N0775330**
Teflon Mira Mist	0.2 to 2.5 mL/min	**N0777031**
For samples with high HF, Sulphuric, and some other solvents that attack Peek.		
Ari Mist (low flow)	0.050 to 1.0 mL/min	**N0777032**
T2100	0.5 to 3.0 mL/min	**N0777033**
For high levels of undissolved solids such as oil samples, geologic samples, and slurries.		

MicroMist Nebulizers

The MicroMist micro-uptake glass concentric nebulizer offers high performance for limited sample volumes. MicroMists with sample uptakes 0.2 – 0.6 mL/min are fitted with a UniFit connector with 1.3 mm o.d. x 0.50 mm i.d. x 700 mm long sample tubing. MicroMists with sample uptakes 0.05 – 0.1 mL/min are fitted a UniFit connector with 1.3 mm o.d. x 0.25 mm i.d. x 700 mm long sample tubing. All MicroMist nebulizers offered by PerkinElmer are supplied with the EzyLok argon connector.

For Optima 2X00/3X00 XL/3X00 DV/3000 SCX/4X00/5X00/7X00*

Ar Flow Rate	Uptake Rate	Part No.
0.7 L/min	0.05 mL/min	**N0775349**
0.7 L/min	0.1 mL/min	**N0775348**
0.7 L/min	0.2 mL/min	**N0775347**
0.7 L/min	0.6 mL/min	**N0775346**

For Optima 3000/3000 SCR/3X00 RL*

Ar Flow Rate	Uptake Rate	Part No.
1.0 L/min	0.05 mL/min	**N0775344**
1.0 L/min	0.1 mL/min	**N0775343**
1.0 L/min	0.2 mL/min	**N0775342**
1.0 L/min	0.4 mL/min	**N0775341**

**Requires Quick Disconnect part no. N0770336.*

SeaSpray Nebulizers

The SeaSpray concentric nebulizer is ideal for samples with high dissolved solids and offers outstanding nebulization efficiency for trace level analyses. It offers freedom from clogging while nebulizing solutions to the limit of solubility of most mineral salts and conferring significant sensitivity gains.

For Optima 2X00/3X00 XL/3X00 DV/3000 SCX/4X00/5X00/7X00

Ar Flow Rate	Uptake Rate	Part No.
0.7 L/min	2 mL/min	**N0775345**

For Optima 3000/3000 SCR/3X00 RL

Ar Flow Rate	Uptake Rate	Part No.
1.0 L/min	2 mL/min	**N0775340**

New! Concentric Nebulizers

For Optima 2X00/3X00/4X00/5X00/7X00

Type	Uptake Rate	Part No.
Conikal Nebulizer	2 mL/min	**N0777487**
Slurry Nebulizer	4 mL/min	**N0777488**
VeeSpray Ceramic Nebulizer	3 mL/min	**N0777489**
PolyCon Nebulizer	2 mL/min	**N0777490**

Please see website for more details.

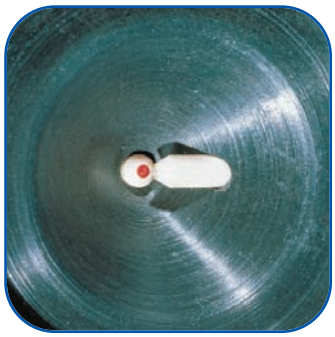
PolyPro ST Nebulizer with Detachable Capillary

This nebulizer is Polypropylene construction and Hydrofluoric acid resistant. 0 – 3 ml/min sample flow rate with peristaltic pumping.

Description	Part No.
PolyPro ST Nebulizer with Detachable Capillary	**N0777219**
PFA-ST Nebulizer with Detachable Capillary	**N0777049**

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

GemCone and GemTip Nebulizers only from PerkinElmer



GemTip Cross-Flow II Nebulizers

Excellent general purpose nebulizer for the analysis of strong mineral acids (including HF) and samples with less than 5% dissolved solids. It can routinely handle 50% (v/v) solutions of HCl, HNO_3, H_2SO_4, H_3PO_4, 20% (v/v) HF and 30% (v/v) NaOH. Up to 20% NaCl can be aspirated by the nebulizer for 1 hour without clogging. Uses chemically resistant GemTips made of sapphire and ruby in a Ryton® end cap for maximum chemical resistance.

GemTip Cross-Flow II Nebulizers

ICP Model	Part No.
Optima 2X00/4X00/5X00/7X00	N0770546
Optima 3X00	N0680503

GemCone™ Low-Flow Nebulizers

Low-flow GemCones permit lower nebulizer gas flow rates, useful for spectral lines with high excitation energies and for providing a more robust plasma. GemCone Nebulizers require an end cap for use with Ryton® Scott Spray Chambers.

GemCone Low-Flow Nebulizers

ICP Model	Part No.
Optima 2X00/4X00/5X00/7X00	N0770358
Optima 3X00	N0690671

GemCone High Dissolved Solids Nebulizer

High solids GemCones are for samples with high dissolved solids (up to 20%). This conespray nebulizer allows you to analyze samples with higher solids concentration than is possible with a Cross-Flow nebulizer. GemCone nebulizers require an end cap for use with Ryton® Scott Spray Chambers.

	Part No.
	N0690670

GemTip Cross-Flow II Nebulizer and End Cap Retrofit Kit

This kit includes the GemTip Cross-Flow II Nebulizer, end cap assembly and the fittings required to install the nebulizer for the first time on the Plasma 40/400, Plasma 1000/2000 and Optima™ 3X00 instruments.

	Part No.
	N0680610

GemTip Cross-Flow Nebulizer Kits

The Tip Kit includes a clear sapphire sample tip (0.012 in i.d.) and a red ruby argon tip (0.009 in i.d.). The tips are constructed of PEEK with the gem inserts noted for maximum corrosion resistance.

GemTip Cross-Flow Nebulizer Kits

Description	Part No.
GemTip Cross-Flow II Tip Kits	N0690676
GemTip Cross-Flow Tip Kits	N0580624
O-Ring Kit for GemTip Cross-Flow Nebulizers	N9300067

GemCone Nebulizer Accessories

Description	Part No.
GemCone Sample Capillary Adapter	N0371505
End Cap for GemCone Nebulizers For Optima 2X00/3X00/4X00/5X00/7X00	N0680504
Quick Disconnect Tubing For Optima 2X00/4X00/5X00/7X00	N0770336

Superior quality Spray Chambers designed to provide **maximum sensitivity** and **efficiency**

The spray chamber is an integral part of the sample introduction system responsible for filtering the sample mist to permit the appropriate droplet size distribution to reach the plasma.

The cyclonic spray chamber relies on momentum to efficiently and quickly remove the larger droplets from the sample mist decreasing any opportunity for occlusion or agglomeration of the smaller droplets. The result is higher efficiency, better precision and faster washouts than other spray chamber designs.

Save Time and Expense

- Decreased sample introduction system installation and optimization time due to the preset nature of the spray chamber/nebulizer combination
- More samples per hour due to minimal dead volume and efficient draining

Unique Design Characteristics

- The nebulizer port is oversized so that sample solution cannot build up around the nebulizer as it will in other cyclonic designs. This translates to less carryover, faster washout times and greater productivity from your Optima
- The nebulizer port angle is tightly controlled so that the nebulizer mist impacts on the same chamber wall area in each and every spray chamber. The angle of incidence is critical in determining the efficiency of large droplet removal
- A trace metal free plastic nebulizer adapter is employed to fix the depth of nebulizer insertion at the optimal position. Because of this, there is no need for an operator to move the nebulizer in and out of the port in an effort to locate the “sweet spot”
- Each spray chamber incorporates a precisely-machined ridge along the inside top of the spray chamber. Both the angle and depth of the ridge are critical to performance. The result is efficient draining of sample waste and the elimination of large droplets being swept into the plasma. This eliminates the periodic “spiking” that adversely affects precision and fosters faster washout times

Cyclonic Spray Chambers

Standard and O-Ring Free glass cyclonic spray chambers can be used with either GemCone or concentric glass nebulizers. HF resistant cyclonic spray chambers should be used with GemCone, SeaSpray or MicroMist nebulizers.

ICP Model	Type	Part No.
Optima 2X00/4X00/5X00/7X00	Standard	**N0776052**
Optima 2X00/4X00/5X00/7X00	O-Ring Free	**N0775351**
Optima 2X00/4X00/5X00/7X00	HF Resistant	**N0777496**
Optima 3X00 DV/XL/3000 SCX	Standard	**N8122188**
Optima 3X00 DV/XL/3000 SCX	O-Ring Free	**N0775350**

New! Glass Cyclonic Spray Chambers

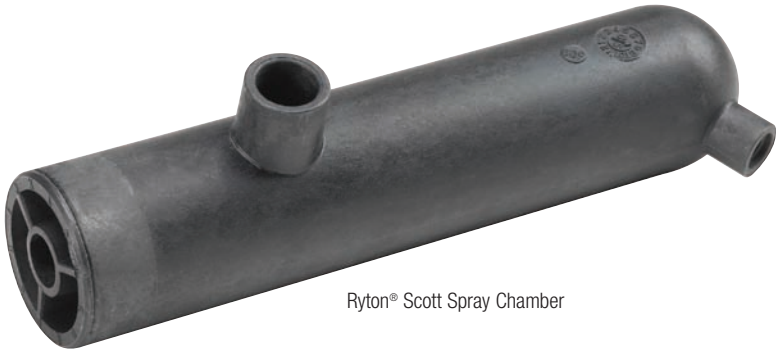
Type	Model	Part No.
Cinnabar Spray Chamber with Helix	Optima 2/4/5/7X00 DV	**N0777494**
Twinnabar Spray Chamber with Helix	Optima 2/4/5/7X00 DV	**N0777495**
Tracey TFE Spray Chamber with Helix	Optima 2/4/5/7X00 DV	**N0777496**
Tracey TFE Spray Chamber with Helix	Optima 4300/5300/7300 V	**N0777497**

Please see website for more details.

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

Applications

Baffled Cyclonic Spray Chamber



Ryton® Scott Spray Chamber

Baffled Cyclonic Spray Chambers

The Baffled Cyclonic Spray Chamber features a central transfer tube which acts as a secondary particle separator, helping to separate larger aerosol particles from the sample. This reduces solvent load in the plasma without compromising detection limits.

Baffled Cyclonic Spray Chambers

The internal baffle design has two important characteristics:

- The distance between the bottom of the baffle and the chamber wall is carefully controlled so that droplets cannot form on the bottom of the baffle. The advantage is smooth draining and improved precision
- The baffle is cut at a sharp angle so that a large cross-section of the spray chamber is sampled as opposed to a straight cut which would have a very small sampling cross-section. The advantage is more representative sampling and reduced matrix effects

ICP Model	Type	Part No.
Optima 2X00/4X00/5X00/7X00 DV	Standard	**N0776053**
Optima 2X00/4X00/5X00/7X00 DV	O-Ring Free	**N0775352**
Optima 2X00/4X00/5X00/7X00 DV for Oil Analysis (4 mm baffle)	Standard	**N0776090**
Optima 2X00/4X00/5X00/7X00 DV	O-Ring Free,Water-Cooled	**N0774100**
Optima 2X00/4X00/5X00/7X00 DV for Oil Analysis (4 mm baffle)	O-Ring Free	**N0775355**
Optima 4300V/5300V/7300V	Standard	**N0771501**
Optima 4300V/5300V/7300V	O-Ring Free	**N0775356**
Optima 4300V/5300V/7300V	HF Resistant	**N0771550**
Optima 5X00/7X00 DV, (7 mm baffle)		**N0777036**

Drain line included without aux. gas port and it connects directly to ESI injectors.

Organic Sample Introduction Kit

Includes 4mm Baffled Cyclonic Spray Chamber, 3-slot Torch, GemCone low-flow Nebulizer, and 1.2mm Alumina Injector.

	Part No.
Optima 2X00/4X00/5X00/7X00 DV	**N0770420**

Ryton® Scott Spray Chambers

The Ryton® Scott Spray Chamber is made from corrosion-resistant Ryton®, which is inert to most mineral acids including HF, aqua regia and all organic solvents normally used in ICP analyses. The Scott-type design minimizes pulsations from the peristaltic pump. The Type II, two-piece design ensures leak-free performance. The removable inner tube allows the chamber to be easily disassembled for cleaning.

Ryton® Scott Spray Chambers

ICP Model	Part No.
Optima 2X00/4X00/5X00/7X00	**N0770357**
Optima 3000/3000 SCR/3X00 RL	**N0690640**
Optima 3X00 DV/XL/3000 SCX	**N0690720**
Plasma 400 (complete)	**N0580542**
Plasma 400 (inner tube)	**N0582259**
Plasma 400 (outer chamber)	**N0582258**

Ryton® Scott External Spray Chamber Kit

Includes external Ryton® Scott Type II Spray Chamber, 1.2 mm Quartz Injector and appropriate mounting hardware. For use with high-volatility samples.

ICP Model	Part No.
Optima 3X00 Series	**N0690289**

Metal Ball Joint Clip

Used to connect spray chamber and torch. Includes tension screw.

	Part No.
	N0773114

UniFit Drain Connector with Tubing for Cyclonic Spray Chambers

Sample Tube Size	Pkg.	Part No.
1/8 in. o.d. x 0.75 mm i.d. x 700 mm	3	**N0774080**
1.3 mm o.d. x 0.75 mm i.d. x 700 mm	3	**N0774077**

Quick-change torch modules provide maximum efficiency in your lab

Quick-Change Torch Module with Ryton® Scott Spray Chamber and GemTip Cross-Flow Nebulizer

Complete torch and sample introduction module including Demountable Single-Slot Torch, mounting block, 2 mm Alumina Injector, Ryton® Scott Spray Chamber and GemTip Cross-Flow II Nebulizer. Useful when a separate sample introduction is required for running different sample types.

Ryton® and GemTip Torch Modules

ICP Model	Part No.
Optima 2X00/4X00/5X00/7X00 DV	**N0770606**
Optima 3000/3000 SCR/3X00 RL	**N0690610**
Optima 3X00 DV	**N0690812**
Optima 3X00 XL/3000 SCX	**N0690712**

Quick-Change Torch Module with Cyclonic Spray Chamber and Concentric Nebulizer

Complete torch and sample introduction module including complete Single-Slot Demountable Torch, mounting block, 2 mm Alumina Injector, Cyclonic Spray Chamber and MEINHARD® Type C Concentric Nebulizer.

ICP Model	Part No.
Optima 2X00/4X00/5X00/7X00	**N0770607**

Mounting Block

Mounting block only. Does not include torch, injector, spray chamber or nebulizer.

ICP Model	Part No.
Optima 2X00/4X00/5X00/7X00	**N0770600**

Quick-Change Torch Module Support Stand

A free-standing support stand to hold your spare Quick-Change Torch Module or as a means of conveniently holding your module when working inside the sample compartment.

ICP Model	Part No.
Optima 2X00/4X00/5X00/7X00 DV	**N0770609**
Optima 3X00	**N0690636**

Quick-Change Torch Modules

Description	ICP Model	Part No.
Dry Aerosol Quick-Change Torch Module	Optima 3000/3000 SCR/3X00 RL	**N0690638**
Dry Aerosol Block and Injector Assembly	Optima 3000/3000 SCR/3X00 RL	**N0690637**
Dry Aerosol Adapter for Ultrasonic Nebulization	Optima 2X00 DV/3X00 XL/3X00 DV/3000 SCX/4X00 DV/5X00 DV/7X00 DV	**N0690770**
Quick-Change Torch Module for HF-Resistant Analysis	Optima 4300V/5300V/7300V	**N0770911**
Quick-Change Torch Module for Used Oil Analysis	Optima 4300V/5300V/7300V	**N0770910**

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

Keep a **replacement Torch** on-hand to ensure **maximum uptime** and **performance**

Demountable Quartz Torches

Demountable design using one-piece quartz tubing for plasma and auxiliary gas flow. Available in a wide range of styles from 0 – 3 slots, depending on your instrument and application needs. Torches without slots are recommended for organic solvents. 1-slot torches are the standard torch for aqueous solutions. 3-slot torches are typically used for organic analysis.

ICP Model	# of Slots	Part No.
Optima 2X00/4X00/5X00/7X00 DV	0	**N0770343**
Optima 2X00/4X00/5X00/7X00 DV	0 (short ver.)	**N0770344**
Optima 2X00/4X00/5X00/7X00 DV	1	**N0770338**
Optima 2X00/4X00/5X00/7X00 DV	3	**N0772005**
Optima 3X00 DV	1	**N0691662**
Optima 3000 SCX/3X00 XL	0	**N0695379**
Optima 3000/3000 SCR/3X00 RL	1	**N0690568**
Optima 3000/3000 SCR/3X00 RL and Plasma 400 wear metals analyzer (for organics)	3	**N0681690**
Optima 4300V/5300V/7300V	3	**N0771500**
Optima 4300V/5300V/7300V ABC Torch Kit	3	**N0774075**
Plasma 400*	3	**N0580528**

**Not to be used with the Plasma 400 wear metals analyzer.*

Torch Bonnets

The torch bonnet is used as a spacer between the torch and RF load coil.

ICP Model	Part No.
Optima 2X00/4X00/5X00/7X00	**N0775289**
Optima 3000/3000 SCR/3X00 RL (for instruments manufactured BEFORE 9/21/94)	**N0695295**
Optima 3000/3000 SCR/3X00 RL (for instruments manufactured AFTER 9/21/94)	**N0695456**
Optima 3X00 XL/3X00 DV	**N0691664**

Ceramic D-Torch

The ceramic outer tube is of particular benefit for the analysis of wear metals in engine oils, where quartz outer tubes often suffer from short lifetime. It is also beneficial for Si determiniations, where quartz outer tubes may produce high background signals.

Description	ICP Model	Part No.
Ceramic D-Torch	Optima 2/4/5/7000 DV	**N0777508**
Base and Inner Tube for D-Torch	Optima 2/4/5/7000 DV	**N0777509**
Quartz Outer Tube for D-Torch	Optima 2/4/5/7000 DV	**N0777510**
Torch Adapter with Auxiliary Port	4300/5300/7300V	**N0774070**
D-Torch with Quartz Outer Tube	4300/5300/7300V	**N0777051**
Quartz Outer Tube for D-Torch	4300/5300/7300V	**N0777053**
Base and Inner Tube for D-Torch	4300/5300/7300V	**N0777054**
Retaining Ring for D-Torches		**N0777055**

Copper Ignitor Tape

Includes one strip with 24 squares.

Part No.
N0775297

Torch O-Rings

ICP Model	Location	Dimensions	Part No.
Optima 2X00/3X00/4X00/5X00/7X00 DV	Torch Base Mount	0.612 i.d., 0.103 w.d.	**09902155**
Optima 2X00/4X00/5X00/7X00 DV O-Ring Kit for Adjustable Torch			**N0770437**
Optima 3X00 XL/3X00 DV/3000 SCX		0.239 i.d., 0.070 w.d.	**09902006**
Optima 3X00 XL/3X00 DV/3000 SCX		0.364 i.d., 0.070 w.d.	**09902015**
Optima 3X00 XL/3X00 DV/3000 SCX		8.74 i.d., 1.78 w.d.	**09921028**
Optima 3X00 XL/3X00 DV/3000 SCX/4300V/5300/7300V	Torch Adapter – inside	0.239 i.d., 0.070 w.d.	**09902207**
Optima 3X00 XL/3X00 DV/3000 SCX/4300V/5300/7300V	Torch Adapter – outside	0.301 i.d., 0.070 w.d.	**09902247**
Optima 4300V/5300V/7300V	Ball Joint	0.301 i.d., 0.070 w.d.	**09926070**
Optima 4300V/5300V/7300V Complete O-Ring Kit Includes (Qty.) Part Number: (1) 09902155, (2) 09902207, (2) 09902247, (1) 09926070			**N0770916**
Plasma 400			**09902152**
Plasma 400			**09902225**

Full selection of **Alumina, Quartz** and **Sapphire Injectors** and **Support Adapters**

Alumina Injectors

Alumina injectors are corrosion-resistant to all mineral acids including HF and aqua regia. They are also used with less volatile organic solvents, e.g., xylene. The 2.0 mm i.d. Alumina injector is shipped standard with all PerkinElmer ICP-OES instruments. A variety of sizes are available as an alternative to the standard injector.

Alumina Injectors

ICP Model	Dimensions	Part No.
Optima 2X00/4X00/5X00/7X00 DV	0.80 mm i.d.	**N0775227**
Optima 2X00/4X00/5X00/7X00 DV	1.2 mm i.d.	**N0775228**
Optima 2X00/4X00/5X00/7X00 DV (1.2 mm entire length of tube)	1.2 mm i.d.	**N0776093**
Optima 2X00/4X00/5X00/7X00 DV	2.0 mm i.d.	**N0775177**
Optima 3000/3000 SCR/ 3X00 RL/Plasma 400/400 WMA	0.85 mm i.d.	**N0582186**
Optima 3000/3000 SCR/ 3X00 RL/Plasma 400/400 WMA	1.5 mm i.d.	**N0582185**
Optima 3000/3000 SCR/ 3X00 RL/Plasma 400/400 WMA	2.0 mm i.d.	**N0582184**
Optima 3X00 XL/3X00 DV/ 000 SCX/4300V/5300V/7300V	2.0 mm i.d.	**N0695362**
Optima 4300V/5300V/7300V	1.2 mm i.d.	**N0771531**

Sapphire Injectors

- Sapphire injectors are ideal for silicon applications

ICP Model	Dimensions	Part No.
Optima 2X00/4X00/5X00/7X00 DV	2.0 mm i.d.	**N0775247**
Optima 3000/3000 SCR/3X00 RL	2.0 mm i.d.	**N0695495**
Optima 3X00 XL/3X00 DV 3000 SCX/4300V/5300V/7300V	2.0 mm i.d.	**N0695494**
Optima 2X00/4X00/5X00/7X00 DV Sapphire in PFA base, (connects directly to ESI spray chambers)	1.8 mm i.d.	**N0777044**

Quartz Injectors

- Quartz injectors are designed for organic solvents and non-HF matrices
- A variety of sizes are available as an alternative to the standard injector

ICP Model	Dimensions	Part No.
Optima 2X00/4X00/5X00/7X00 DV	0.80 mm i.d.	**N0775225**
Optima 2X00/4X00/5X00/7X00 DV	1.2 mm i.d.	**N0775226**
Optima 2X00/4X00/5X00/7X00 DV	1.6 mm i.d.	**N0775223**
Optima 2X00/4X00/5X00/7X00 DV	2.0 mm i.d.	**N0775014**
Optima 2X00/4X00/5X00/7X00 DV	3.0 mm i.d.	**N0775224**
Optima 3000/3000 SCR/3X00 RL/ Plasma 400/400 WMA	1.2 mm i.d.	**N0681631**
Optima 3000/3000 SCR/3X00 RL	1.6 mm i.d.	**N0695448**
Optima 3000/3000 SCR/3X00 RL	2.0 mm i.d.	**N0695441**
Optima 3X00 XL/3X00 DV/ 3000 SCX/4300V/5300V/7300V	0.8 mm i.d.	**N0695461**
Optima 3X00 XL/3X00 DV/ 3000 SCX/4300V/5300V/7300V	1.2 mm i.d.	**N0695460**
Optima 3X00 XL/3X00 DV/ 3000 SCX/4300V/5300V/7300V	1.6 mm i.d.	**N0695449**
Optima 3X00 XL/3X00 DV/ 3000 SCX/4300V/5300V/7300V	2.0 mm i.d.	**N0695442**
Plasma 400/400 WMA	1.6 mm i.d.	**00473292**

Injector Support Adapters

ICP Model	Spray Chamber	Part No.
Optima 2X00/4X00/5X00/7X00 DV	All	**N0770603**
Optima 3000/3000 SCR/3X00 RL	Ryton® Scott	**N0695214**
Optima 3X00 XL/3X00 DV/ 3000 SCX	Ryton® Scott	**N0695400**
Optima 3X00 XL/3X00 DV/ 3000 SCX	Cyclonic	**N0690780**
Optima 4300V/5300V/7300V (bottom)	Cyclonic	**N0771526**
Optima 4300V/5300V/7300V (top)	Cyclonic	**N0771527**
Plasma 400/400 WMA	Ryton® Scott	**N0582248**

Injector Support Adapter O-Ring Kits

ICP Model	Part No.
Optima 2X00/4X00/5X00/7X00 DV	**N0770438**
Optima 3000/3000 SCR/3X00 RL	**N0690269**
Optima 3X00 XL/3X00 DV/3000 SCX	**N0690769**
Plasma 400/400 WMA (Includes O-Rings for the Type II Demountable Torch)	**N0580539**

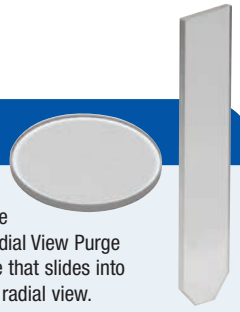
See **page 2** for ordering information and a complete listing of PerkinElmer offices.

Keep your **instrument** operating at peak **efficiency** with **genuine sample introduction** supplies

Ceramic Interface Cone

The Ceramic Interface Cone includes the Ceramic Cone, the Purge Window (09992731) and the Clamp. The Ceramic Cone is used between the plasma and the spectrometer.

ICP Model	Part No.
Optima 3X00 XL/3000 SCX	**N0690666**

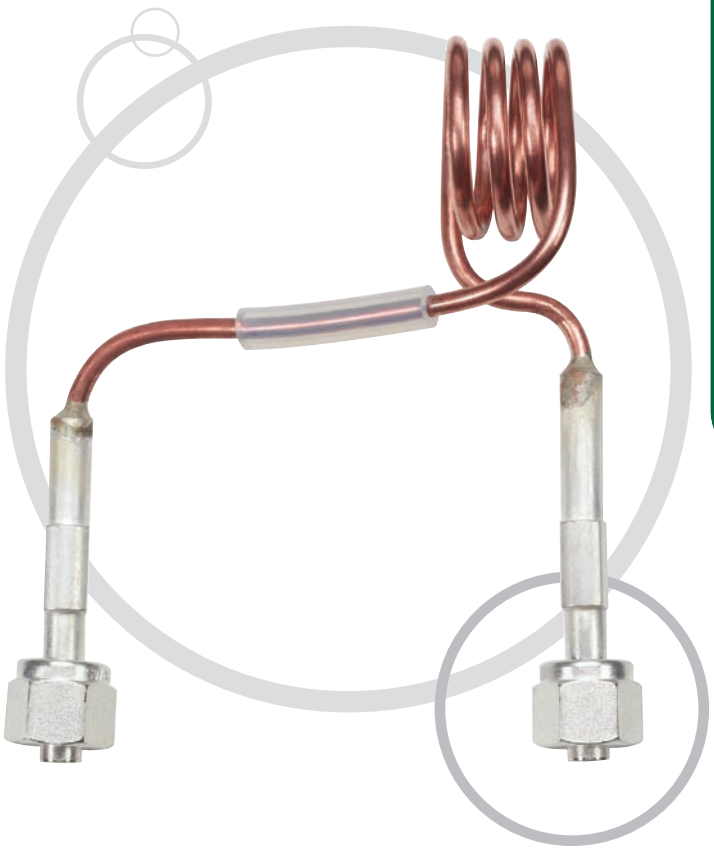


Purge Extension Windows

The Axial View Purge Extension Window is a replaceable quartz window that slides into the purge extension between the torch and the optics. The Radial View Purge Extension Window Tube is a replaceable quartz tube that slides into the mount between the torch and the optics for the radial view.

ICP Model	View	Part No.
Optima 2X00/7000	DV Axial	**09992731**
Optima 2X00/7000	DV Radial	**B0810377**
Optima 3X00 DV (window)	DV Axial	**N0771116**
Optima 3X00 DV (tube)	DV Axial	**N0691678**
Optima 3X00 DV (long tube) (38 mm/1.5 in)	DV Radial	**N0691689**
Optima 3X00 DV (short tube) (32 mm/1.25 in)	DV Radial	**N0690672**
Optima 3000 SCX/3X00 XL	Axial	**09992731**
Optima 3000/3000 SCR/3X00 RL	Radial	**N0581497**
Optima 4300V/5300V/7300V	Radial	**N0581497**
Optima 4X00/5X00/7100/7200/7300 DV	DV Axial	**N0771116**
Optima 5X00/7100/7200/7300 DV	DV Radial	**N0770944**
Optima 4X00 DV/5X00 DV*	DV Radial	**N0770322**
Plasma 40/400	Radial	**N0681234**

** Pre November 2004*



RF Load Coils*

ICP Model	Part No.
Optima 2X00/4X00/5X00/7X00 DV	**N0775300**
Optima 3X00 XL/3X00 DV	**N0690772**
Optima 3000/3000 SCR/3X00 RL (For instruments manufactured BEFORE 9/21/94)	**N0690572**
Optima 3000/3000 SCR/3X00 RL (For instruments manufactured AFTER 9/21/94)	**N0690668**
Optima 4300V/5300V/7300V	**N0771536**
Plasma 400 (Assembly includes Torch Bonnet)	**N0680212**

** Installation by PerkinElmer Service is required, but not included.*

Ceramic Purge Extension

ICP Model	Part No.
Optima 3000/3000 SCR/ 3X00 RL/4300V/5300V/7300V	**N0581455**

RF Load Coil Accessories

Description	Part No.
Igniter Spark Gap Assembly for Type II Demountable Torch	**N0680275**
Nylon Igniter Standoff	**09989859**

PerkinElmer **nebulizers** offer **superb sample** introduction for a **wide variety** of **applications**

Meinhard Nebulizers

The MEINHARD® Concentric Nebulizer reflects exacting standards in design and manufacturing. Its advantages include simplicity of design and operation, reproducible and self-aligning aerosol, and close fabrication control. They provide excellent sensitivity and precision for aqueous solutions and samples with few dissolved solids (less than 1%). MEINHARD® Nebulizers are self-aspirating. They are not to be used with solutions containing hydrofluoric acid. PerkinElmer offers three types for ICP-MS: MEINHARD® C3, K and A3. All MEINHARD® Nebulizers require an end cap (N0680504) for use with Ryton® Scott Spray Chambers. The Type A3 is an all-quartz concentric nebulizer, and ships standard on the ELAN DRC/DRC^{plus}/DRC II.

Model	Material	AR Flow Rate	Uptake Rate	Part No.
Type C3	Glass	1.0 L/min	3 mL/min	**N8102011**
Type K	Glass	1.0 L/min	3 mL/min	**N0681574**
Type A3	Quartz	1.0 L/min	3 mL/min	**WE024371**

Description	Part No.
Nebulizer Clip for Meinhard Nebulizers	**N0777460**
4 mm Liquid-End Connector Kit	**N0777414**

Liquid Connector

Low dead volume PEEK connector for use with MEINHARD® Concentric Nebulizers. Requires 0.062 in (1.59 mm) o.d. tubing (WE024375). Standard on ELAN DRCs. Not required for PFA Teflon® Nebulizers.

Part No.
WE024372

Ryton® End Cap for Concentric Nebulizers

Ryton® end cap to fit any concentric nebulizer onto a Ryton® Scott Spray Chamber.

Part No.
N0680504

MicroMist Nebulizers

The MicroMist micro-uptake glass concentric nebulizer offers high performance for limited sample volumes. MicroMists with sample uptakes 0.2 – 0.4 mL/min are fitted with a UniFit connector with 1.3 o.d. x 0.50 mm i.d. x 700 mm long sample tubing. MicroMists with sample uptakes 0.05 – 0.1 mL/min are fitted with a UniFit connector with 1.3 o.d. x 0.25 mm i.d. x 700 mm long sample tubing. All MicroMist nebulizers offered by PerkinElmer are supplied with the EzyLok argon connector.

MicroMist Nebulizers

AR Flow Rate	Uptake Rate	Part No.
1.0 L/min	0.4 mL/min	**N0775341**
1.0 L/min	0.2 mL/min	**N0775342**
1.0 L/min	0.1 mL/min	**N0775343**
1.0 L/min	0.05 mL/min	**N0775344**

SeaSpray Nebulizers

The SeaSpray Concentric Nebulizer is ideal for samples with high dissolved solids and offers outstanding nebulization efficiency for trace level analysis. It offers freedom from clogging while nebulizing solutions near the limit of solubility of most mineral salts, and conferring significant sensitivity gains. All SeaSpray Nebulizers are supplied with the EzyLok Argon connector.

AR Flow Rate	Uptake Rate	Part No.
1.0 L/min	2 mL/min	**N0775340**
1.0 L/min	1 mL/min	**N0774069**
1.0 L/min	0.4mL/min	**N0777484**

OpalMist Nebulizers

The OpalMist is ideal for the geochemistry & semiconductor industry. The OpalMist PFA concentric nebulizer is for high precision analyses involving analyses requiring high chemical resistancy to HF, alkalis and organics. It also provides excellent results for trace analyses.

AR Flow Rate	Uptake Rate	Part No.
1.0 L/min	0.4 mL/min	**N0777485**
1.0 L/min	0.1 mL/min	**N0777486**

Conikal Nebulizer

Includes UniFit Connector with 0.75 mm i.d. x 1.3 mm o.d. x 700 mm tubing and EzyLok Connector Kit.

AR Flow Rate	Uptake Rate	Part No.
1.0 L/min	3 mL/min	**N0773195**

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

PFA Teflon® Nebulizers

The PFA-ST nebulizer features high purity, HF-resistance, and high performance, along with an exchangeable external sample uptake capillary. The sample uptake rate is controlled by the dimension of the external capillary or probe. For use with autosamplers. Requires a CTFE union (N8122355) to connect to the UltraClean autosampler probe. All-Teflon® construction, chemically inert. Chemically resistant–ideal for strong acids, alkalis, organics. Resistant to clogging – reliably self-aspirated or pumped. Low, spike-free background for important elements such as:

- Fe and Ca. Produces a fine aerosol for high transport efficiency and high sensitivity
- Analyze all sample types with a single introduction system. Direct analysis of volatile and non-volatile organic solvents
- External threaded interface designed for zero dead volume connections and easy maintenance
- Exchangeable uptake capillaries allow one nebulizer to be used at different self-aspiration rates from 100 to 400 µL/min. Can be pumped from 0.1 to 3 mL/min.

Part No.
N8122192

Teflon® Sample Capillaries

For use with PFA-ST nebulizer.

Size	Uptake Rate	Part No.
0.25 mm i.d.	100 µL/min	**N8122383**
0.5 mm i.d.	400 µL/min	**N8122384**

Concentric Teflon® Nebulizers

UltraClean PFA Teflon® Nebulizers. Not for use with autosamplers.

Description	Uptake Rate	Part No.
PFA-20	20 µL/min	**N8122350**
PFA-100	100 µL/min	**N8122351**

PFA Nebulizers with Carbon Fiber Probes

For use with SC Autosamplers.

Uptake Rate	Length	Part No.
20 µL	80 cm	**N0777214**
50 µL	80 cm	**N0777215**
100 µL	80 cm	**N0777216**
200 µL	80 cm	**N0777217**
400 µL	80 cm	**N0777218**

GemClean Cross-Flow II Nebulizer

Complete chemically inert Cross-Flow II nebulizer assembly for ICP-MS. Specially processed to reduce BEC levels below 1 ppb. Contains a Ryton® end cap with a GemTip clear sapphire sample tip and a GemTip red ruby argon tip optimized for ICP-MS.

For Model	Part No.
ELAN DRCe/9000/6X00/5000/500/250	**N8120516**

Cross-Flow Replacement GemTips and Supplies

Includes a clear sapphire sample tip and a red ruby argon tip optimized for ICP-MS. The tips are constructed of PEEK for maximum corrosion resistance. Used in all GemClean Cross-Flow II nebulizers produced after September, 1998.

Description	Part No.
Cross-Flow Replacement GemTips	**N0580624**
Cross-Flow II Replacement GemTips	**N8120515**
O-Ring Kit for Gem Tip Cross-Flow Nebulizers	**N9300067**
Cross-Flow II Nebulizer Argon Ferrule	**09920515**
Cross-Flow II Nebulizer Ferrule Kit	**N0680612**
Cross-Flow II Nebulizer End Cap	**N8122239**
Cross-Flow II Nebulizer Sample Ferrule	**09920518**

PolyPro-ST Nebulizer

The PolyPro-ST Nebulizer is an HF resistant alternative to the PFA nebulizer. The PolyPro has lower chemical resistance than the PFA nebulizer. but have the same high efficiency aerosol generation. A robust nebulizer that can self aspirate with an exchangeable external sample uptake capillary or used with a peristaltic pump.

Part No.
N0777220

Superior Quality Spray Chambers for a

PerkinElmer **spray chambers** provide maximum **sensitivity** and **efficiency**

Baffled Cyclonic Spray Chambers

The spray chamber is an integral part of the sample introduction system responsible for filtering the sample mist to permit the appropriate droplet size distribution to reach the plasma. The baffled cyclonic spray chamber features a central transfer tube which acts as a secondary particle separator helping separate larger aerosol particles from the sample. This reduces solvent load in the plasma without compromising detection limits. The distance between the bottom of the baffle and the chamber wall is carefully controlled so that droplets cannot form on the bottom of the baffle. The advantage is smooth draining and improved precision.

Baffled Quartz Cyclonic Spray Chamber

Baffled Quartz Spray Chamber (Teflon® O-Ring type) with ball joint.

ICP-MS Model	Part No.
ELAN DRC/DRCplus/DRC II	**WE025221**

O-Ring for Baffled Quartz Cyclonic Spray Chamber

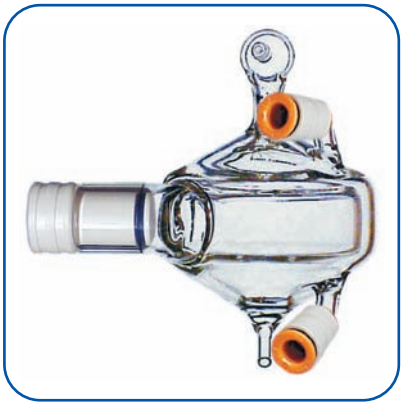
Teflon® coated Viton. Standard on Baffled Quartz Cyclonic Spray Chamber (WE025221).

	Part No.
	09210011

Baffled Quartz Cyclonic Spray Chamber

7 mm baffle, aux. gas port, drain line included and connects directly to ESI injectors. An adapter is needed to connect to other injectors.

Description	Part No.
With Auxillary Gas Port	**N0777034**
Without Auxillary Gas Port	**N0777035**



Water-Cooled Baffled Glass Cyclonic Spray Chambers

The water-cooled design permits the introduction of coolant for temperature control. Thermostatting to constant temperature helps ensure highly reproducible results and long-term stability. Can also be cooled to suppress volatilization, allowing the direct aspiration of highly volatile solvents such as naphtha and petrol/gasoline. Glass with baffle and oxygen port. Recommended for light organic solvents and chromatography use. Includes Auxiliary Port and Teflon Seals, 50 ml cyclonic, Borosilicate glass.

ICP-MS Model	Part No.
ELAN DRC-e/9000/6X00/5000	**N8120180**
ELAN DRC/DRC^{plus}/DRC II	**N8120181**

Water-Cooled O-Ring Free Baffled Glass Cyclonic Spray Chamber

The o-ring free design eliminates the o-ring seal between the nebulizer and the spray chamber.

ICP-MS Model	Part No.
ELAN DRC-e/9000/6X00/5000	**N0775353**

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

Variety of Applications

Cyclonic Spray Chambers

The Cyclonic Spray Chamber relies on momentum to efficiently and quickly remove the larger droplets from the sample mist decreasing any opportunity for occlusion or agglomeration of the smaller droplets. The result is higher efficiency, better precision and faster washouts than other spray chamber designs.

- Decreased sample introduction system installation and optimization time due to the preset nature of the spray chamber/nebulizer combination
- More samples per hour due to minimal dead volume and efficient draining

Unique design characteristics:

- The nebulizer port is oversized so that sample solution cannot build up around the nebulizer as it will in other cyclonic designs
- The nebulizer port angle is tightly controlled so that the nebulizer mist impacts on the same chamber wall area in each and every spray chamber
- Each spray chamber incorporates a precisely machined ridge along the inside top of the spray chamber. This eliminates the periodic "spiking" that adversely affects precision and fosters faster washout times

Glass Cyclonic Spray Chamber Kit

For ELAN DRCe/9000/6X00/5000. Kit contains one Glass Cyclonic Spray Chamber, mounting hardware and instructions. Requires, but does not include, a concentric nebulizer.

Description	Part No.
Glass Cyclonic Spray Chamber Kit	**N8120150**
Glass Cyclonic Spray Chamber only	**N8122188**
O-Ring Free Glass Cyclonic Spray Chamber	**N0775350**

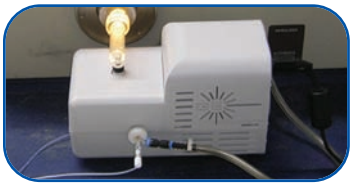
Water-Cooled O-Ring Free Glass Cyclonic Spray Chamber

O-Ring Free Glass Cyclonic Spray Chamber only. Ball joint type.

ICP-MS Model	Part No.
ELAN DRC/DRC^{plus}/DRC II	**N0775354**

Twister Cyclonic Spray Chamber

	Part No.
	N0773196



IsoMist Programmable Temperature Spray Chamber

The IsoMist Programmable Temperature Spray Chamber lets you select any temperature between -10 °C and +60 °C in 1 °C increments to provide the optimum conditions for any application. The rapid response of the Peltier device allows a spray chamber temperature of -5 °C to be reached within 15 minutes.

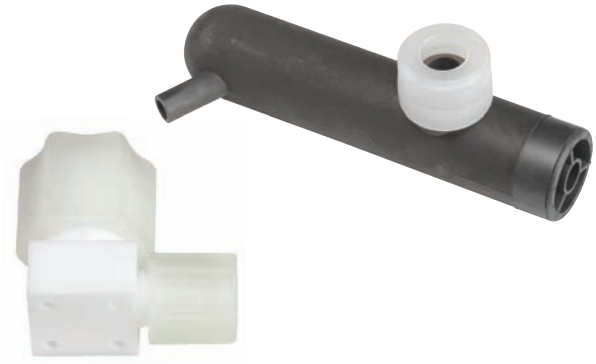
	Part No.
	N0777364

PC^3 Spray Chamber

The PC^3 cools the outer walls of the Cyclonic Spray Chamber to a constant temperature. This reduces polyatomic ion interferences, such as oxides, for ICP-MS analysis.

ICP-MS Model	Part No.
Cassette Torch Mount	**N8122410**
Twist Type Torch Mount	**N8122389**

Ryton® Scott Spray Chambers



Ryton® Scott Spray Chambers

For ELAN 9000/6X00/5000/DRC-e. Complete HF-resistant Ryton® Scott Spray Chamber. Includes (1) large O-Ring (WE013060), (1) Retaining Ring (WE014081) and (1) Right-Angled Drain Connector (WE013119).

Description	Part No.
Ryton® Scott Spray Chamber	**N8120124**
Ryton® Scott Spray Chamber Large O-Ring	**WE013060**
Ryton® Scott Spray Chamber Retaining Ring	**WE014081**

PFA Teflon® Scott Spray Chamber

UltraClean, low volume 47 mm Scott Spray Chamber. For use with concentric nebulizers. Requires a PFA injector assembly and the PFA End Cap (N8122357).

Description	Part No.
PFA Teflon® Scott Spray Chamber	**N8122356**

Water-Cooled Glass Scott Spray Chamber

Water-Cooled Glass Scott Spray Chamber included in Heavy Organics Sample Introduction System (N8122132). Recommended for use with heavy organic solvents.

Does not include end cap.

ICP-MS Model	Part No.
ELAN DRCe/9000/6X00/5000	**WE013829**

Full selection of Alumina, Quartz and Sapphire Injectors and Support Adapters

Alumina Injectors

Alumina injectors are compatible with twist type and cassette torch mounts. They are vacuum baked to reduce contamination.

- 2.0 mm i.d. for use with HF-resistant (Ryton®) sample introduction system. Standard injector for aqueous solutions and less volatile organic solvents
- 1.5 mm i.d. for reduced sample loading with HF-resistant (Ryton®) sample introduction system
- 0.85 mm i.d. for use with volatile organic solutions on the HF-resistant (Ryton®) sample introduction system

Alumina Injectors for ELAN DRC-e/9000/6X00/5000/500

Dimension	Part No.
2.0 mm i.d.	**N8126041**
1.5 mm i.d.	**N8126040**
0.85 mm i.d.	**N8126039**

Quartz Injectors

Quartz Injectors are compatible with twist type and cassette torch mounts. The ELAN DRC II uses a specially designed all-quartz sample introduction system to minimize background contamination levels. The standard 2.0 mm i.d. quartz injector is held by a specially designed pass-through, injector support assembly to minimize contact with materials that could cause sample contamination, a must for determinations made at the parts-per-trillion level.

Quartz Injectors

For the ELAN DRC-e/9000/6X00/5000 when using the HF-Resistant Sample Introduction System (WE024782).

Description	Recommended Use	Part No.
1.2 mm i.d.	Organic Solvents	**N0681631**
1.6 mm i.d.	Organic Solvents	**00473292**
2.0 mm i.d.	Clinical Samples	**N8125029**

Quartz Ball Joint Injectors

For ELAN DRC/DRC*plus*/DRC II. For use with Pass-Through Ball Joint Injector Support Adapters (WE023951 or W1012406).

Description	Recommended Use	Part No.
0.85 mm i.d.*	Volatile Organics	**WE027030**
1.5 mm i.d.*	Organics	**WE027005**
2.0 mm i.d.	General Purpose	**WE023948**

**For reduced sample loading.*

Sapphire Injectors

Sapphire Injector Tube, 2.0 mm i.d.

Demountable injector for use with the HF-resistant (Ryton®) sample introduction system. Not for use with PFA sample introduction system.

Description	Part No.
ELAN DRC-e/9000/6X00/5000	**N0695495**

PFA Injector Assemblies

PFA/Quartz Torch Injector Assembly

Description	Dimension	Part No.
PFA/Quartz Twist Type	1.5 mm i.d.	**N8122394**
PFA/Quartz Cassette	1.5 mm i.d.	**N8122413**

PFA/Sapphire Torch Injector Assembly

Description	Dimension	Part No.
PFA/Sapphire Twist Type	1.8 mm i.d.	**N8122358**
PFA/Sapphire Cassette	1.8 mm i.d.	**N8122411**

PFA/Platinum Torch Injector Assembly

Description	Dimension	Part No.
PFA/Platinum Twist Type	2.0 mm i.d.	**N8122359**
PFA/Platinum Cassette	2.0 mm i.d.	**N8122412**

Injector Support Adapters

ICP-MS Model	Part No.
ELAN DRC/DRC*plus*/DRC II	
Ball Joint Twist Type Torch Injector Support Adapter	**WE023951**
ELAN DRC II	
Ball Joint Cassette Torch Injector Support Adapter	**W1012406**
ELAN 9000/6X00/5000/DRC-e	
Twist Type Torch Injector Support Adapter	**N8122007**
Twist Type Torch Injector Support Adapter (Assembled with O-Rings)	**N8120116**
ELAN 9000/6X00/5000/DRCs	
Injector Support Adapter O-Ring Kit	**N8120100**

Injector Support Adapter O-Rings

Position	Torch Type	Part No.
External	Twist/Cassette	**09210011**
External (large)	Cassette	**W1013545**
Internal	Twist/Cassette	**09210012**

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

Ensure uptime — keep a replacement Torch on hand

Demountable Quartz Torch

The EasyGlide™ torch mount and alignment system used in the ELAN ICP-MS system is shown on the right. It is a demountable design that incorporates a quartz torch with a fully replaceable sample injector made of fused alumina, quartz or sapphire.

ICP-MS Model	Part No.
ELANs all models	N8122006

High Efficiency Demountable Quartz Torch

Demountable Quartz Torch only. Operates at 25% reduced argon gas flows compared to the Demountable Quartz Torch (N8122006). The ELAN 9000 and 6X00 require the High Efficiency Torch Kit (W1007468) for first time installation.

ICP-MS Model	Part No.
ELAN 9000/6X00/DRCs	W1008384

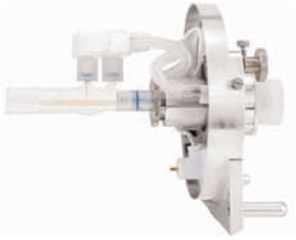
High Efficiency Torch Kit

Includes the High Efficiency Torch (W1008384) and flow restrictors required for use with the ELAN 9000 and 6X00.

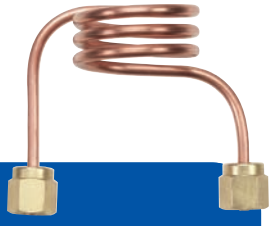
ICP-MS Model	Part No.
ELAN 9000 and 6X00	W1007468

Cassette Torch Mount

The Cassette Torch Mount is an innovative torch design that is fully modular, demountable, rugged and easy to maintain. Now changing torch components is a simple process – no tools are required. Cassette Torch Mount does not include Demountable Quartz Torch or Injector.



ICP-MS Model	Part No.
ELAN DRC II	W1020672
ELAN 9000/DRC-e	W1020668



RF Load Coil Assemblies

ICP-MS Model	Part No.
ELAN 9000/6X00/DRCs	WE021816
ELAN 5000	WE012411

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from PerkinElmer

Save on Torches

when ordered with a
Spray Chamber or Nebulizer

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Torch Alignment Tool

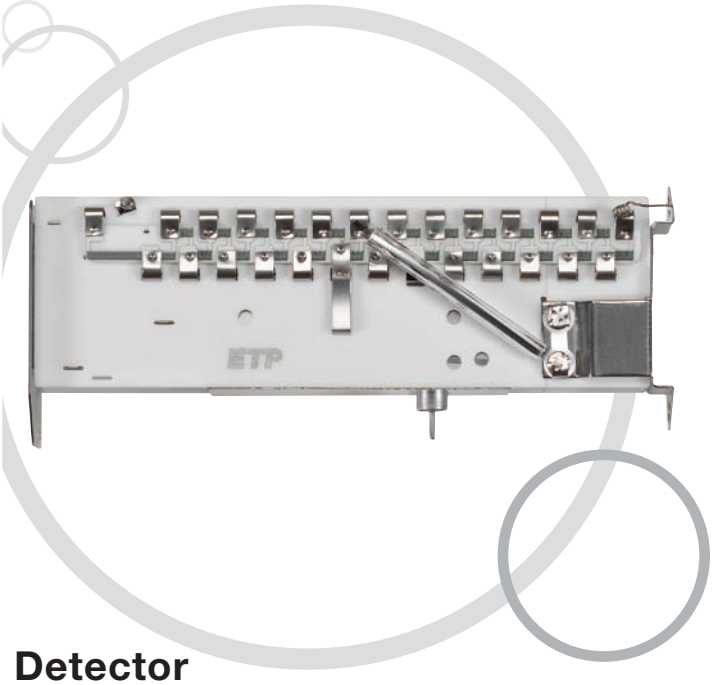
Used to align the torch in the load coil.

ICP-MS Model	Part No.
ELAN 9000/6X00/DRCs	WE015554

Power Amplifier Tube (Ceramic)

ICP-MS Model	Part No.
ELAN 9000/6X00/DRCs and ELAN 5000As manufactured after September, 1992	N0695477

Unique **Detector** and **Ion Optic** design

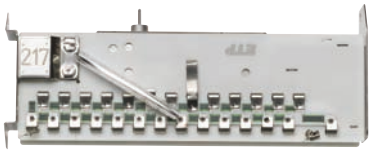


Detector

SimulScan Dual-Stage Detector

The original dual-stage detector is an integral part of the ELAN SimulScan™ system. This electron multiplier measures both high- and low-level analytes simultaneously. This conserves valuable or limited samples, eliminates the need to perform time-consuming sample dilutions and allows you to quickly characterize unknown samples. This Detector is designed for use with the ELAN 9000/6X00/DRCs.

ICP-MS Model	Part No.
ELAN 9000/6X00/DRCs* manufactured prior to April, 2005	**N8125001**



SimulScan Dual-Stage Detector

The improved Dual-Stage Detector is designed for better stability and longer lifetime than its predecessor. ELAN instruments produced after April, 2005 have the proper electronics to accept this detector without modification. ELAN instruments manufactured before April, 2005 will require a one-time upgrade to the Detector Electronics (W1013195). Using this detector in an instrument without the upgraded electronics will result in higher noise levels and shorter lifetime.

ICP-MS Model	Part No.
ELAN 9000/6X00/DRCs*	**N8125050**

Detector Electronics Upgrade Kit

Boosts detector life at least 20%.

ICP-MS Model	Part No.
ELAN 9000/6X00/DRCs* manufactured prior to April, 2005	**W1013195**

**Service installation is required, but not included.*

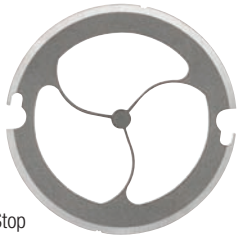
Ion Optics

PerkinElmer offers the industry's only single-ion lens with the exclusive SwiftMount™ II cassette lens mount. The plug and play design makes changing the ion lens faster and simpler than ever before. No tools are required as the design incorporates a clean capture-and-release concept.

Ion Lens

Description	ICP-MS Model	Part No.
Cassette Ion Lens Upgrade Kit	ELANs manufactured before April, 2005	**W1017871**
Series II Ion Lens	ELAN 9000/6X00/DRCs manufactured after January, 1998	**WE018034**
Ion Lens	ELAN 6000s manufactured before January, 1998	**WE014777**
Series II Lens Removal Tool	ELAN 9000/6X00/DRCs manufactured between January,1998 and April, 2005	**W1010620**

Series II Ion Lens



Series II ShadowStop

ShadowStop

Description	ICP-MS Model	Part No.
Cassette Lens ShadowStop	ELAN 9000/DRCs manufactured after April, 2005	**W1013361**
Series II ShadowStop	ELAN 9000/6X00/DRCs manufactured between January, 1998 and April, 2005	**WE029011**

Vacuum Pump Supplies

Vacuum Pump Oil

For use with roughing pumps. One gallon (3.8 liters).

Pump Model	Part No.
Leybold	**N8122004**
Varian	**N8122308**

Fomblin Vacuum Pump Fluid

Description	Size	Part No.
Y14/6	1 kg	**N8122265**

High Vacuum Silicon Grease

For lubrication of ELAN 9000/6X00/5000/DRCs vacuum system O-Rings.

	Part No.
	09905147

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

Tested and approved Sampler and Skimmer Cones

Sampler and Skimmer Cones

Precision-designed and manufactured, large-orifice sampler and skimmer cones provide superior long-term stability and resist clogging, allowing analysis under both high and low sample-uptake conditions. Nickel is a very rugged, long-lasting material for the majority of sample types, while platinum is the material of choice for more corrosive samples. The sampler cone, with a 1.1 mm orifice diameter, and the skimmer cone, with a 0.9 mm orifice diameter, are the largest in the industry. They have been designed to maximize signal stability and to minimize clogging during extended runs of samples containing high dissolved solids. The sampler cone, which is continually exposed to the plasma and the sample, utilizes a threadless pop-in, pop-out design for rapid removal.

Nickel Sampler and Skimmer Cone

Nickel Sampler and Skimmer Cones*

ICP-MS Model	Type	Part No.
ELAN 5000	Sampler	**WE013087**
ELAN 5000	Skimmer	**N8122000**
ELAN 9000/6X00/DRC	Sampler	**WE021140**
ELAN 9000/6X00/DRC	Skimmer	**WE021137**

Platinum Sampler and Skimmer Cones*

ICP-MS Model	Type	Part No.
ELAN 5000	Sampler	**N8122025**
ELAN 5000	Skimmer	**N8122035**
ELAN 9000/6X00/DRC	Sampler	**WE027802**
ELAN 9000/6X00/DRC	Skimmer	**WE027803**

**Prices subject to change based on volatile precious metal prices.*

Platinum Sampler Cone

Platinum Skimmer Cone

Sampler and Skimmer Cone O-Rings

ICP-MS Model	Type	Qty.	Part No.
ELAN 5000	Sampler	1	**N8122003**
ELAN 5000	Sampler	20	**N8120114**
ELAN 5000	Skimmer	1	**N8122002**
ELAN 5000	Skimmer	20	**N8120113**
ELAN 9000/6X00/DRC	Sampler	5	**N8120511**
ELAN 9000/6X00/DRC	Skimmer	5	**N8120512**

SPECIAL SAVINGS OFFERS from PerkinElmer!

Save on ICP-MS Cones

when you purchase 2 or more!

Please contact your local sales office for more details.

Delivering Enhanced Value and Outstanding Savings on the products you use most!

Sampler Cone Aluminum Gasket

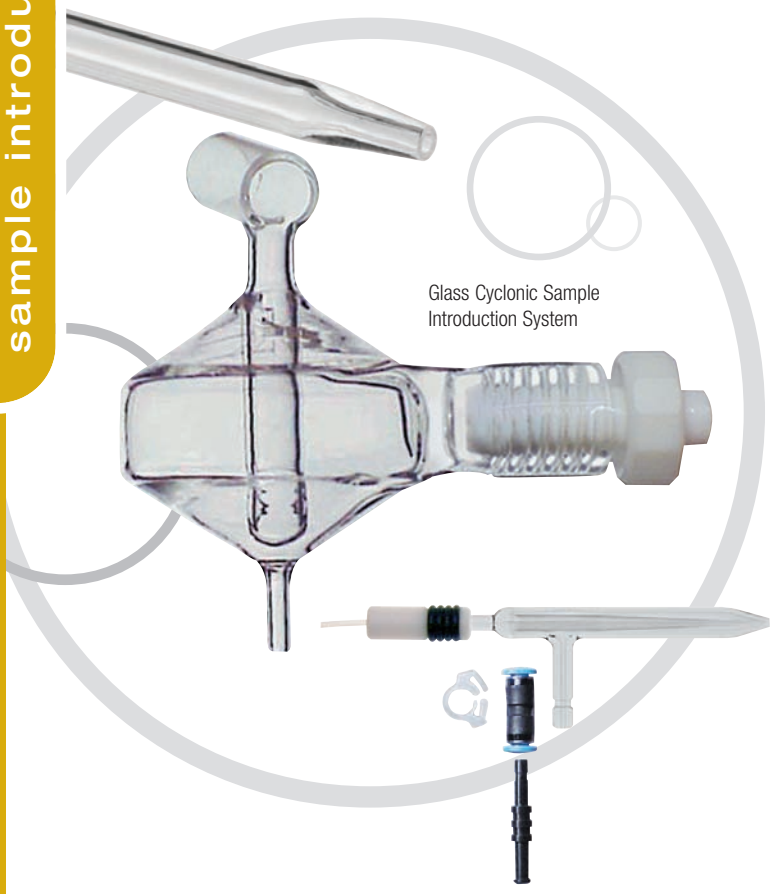
One aluminum gasket for ELAN® 5000 sampler cones.

ICP-MS Model	Part No.
ELAN 5000	**WE012989**

Cone Removal Tool

ICP-MS Model	Part No.
ELAN 5000	**N8122040**
ELAN 9000/6X00/DRC	**WE017142**

Sample Introduction Kits provide a complete solution for your ICP-MS Applications



Glass Cyclonic Sample Introduction System

	Part No.
	N8120518
System Includes:	
Twister Cyclonic Spray Chamber w/Helix	**N0775352**
Cyclonic Spray Chamber Mount	**WE014034**
MicroMist Micro-uptake Glass Concentric Nebulizer Offers high performance for limited sample volumes. Fitted with an EzyFit connector with 1.3 o.d. x 0.50 mm i.d. x 700 mm long sample tubing.	**N0775342**
Quartz Injector 2.0 mm i.d.	**N8125029**
Tygon Tubing (1 foot)	**02506516**
Insert	**09903094**
¼ in. Front Ferrule	**09903456**
Fitting	**09903464**
Tube Fitting	**09903465**
Black/Black Standard PVC Tubing 0.76 mm i.d. (Pkg. 12)	**09908585**
Green/Yellow Flared End PVC Tubing 0.44 mm i.d. (Pkg. 6)	**N0773113**

Quartz Cyclonic Sample Introduction System

	Part No.
	N8120519
System Includes:	
Baffled Quartz Cyclonic Spray Chamber Baffled Quartz Spray Chamber (Teflon® O-Ring type) with ball joint.	**WE025221**
MicroMist Micro-uptake Glass Concentric Nebulizer Offers high performance for limited sample volumes. Fitted with an EzyFit connector with 1.3 o.d. x 0.50 mm i.d. x 700 mm long sample tubing.	**N0775342**
Quartz Ball Injector 2.0 mm i.d.	**WE023948**
Tygon Tubing (1 foot)	**02506516**
Insert	**09903094**
¼ in. Front Ferrule	**09903456**
Fitting	**09903464**
Tube Fitting	**09903465**
Black/Black Standard PVC Tubing 0.76 mm i.d. (Pkg. 12)	**09908585**
Green/Yellow Flared End PVC Tubing 0.44 mm i.d. (Pkg. 6)	**N0773113**
Ball Joint Cassette Torch Injector Support Adapter	**W1012406**
UV Safety Shield	**W1020996**
Connector 1A	**B0199233**

ELAN Spares Kits
Always keep spares on hand!

ELAN® DRC-e/9000 Spares Kit

		Kit Part No.
		N8120610
Includes:	**Qty.**	
Demountable Quartz Torch	1	**N8122006**
RF Coil Assembly	1	**WE021816**
Alumina Injector 2.0 mm i.d.	1	**N8126041**
Cross-Flow II Replacement GemTips™	1	**N8120515**
Series II Ion Lens	1	**WE018034**
Nickel Sampler Cones	2	**WE021140**
Nickel Skimmer Cones	2	**WE021137**
Sampler Cone o-rings (Pkg. 5)	1	**N8120511**
Skimmer Cone o-rings (Pkg. 5)	1	**N8120512**

ELAN® DRC II Spares Kit

		Kit Part No.
		N8120611
Includes:	**Qty.**	
Demountable Quartz Torch	1	**N8122006**
RF Coil Assembly	1	**WE021816**
Quartz Ball Joint Injector 2.0 mm i.d.	1	**WE023948**
Series II Ion Lens	1	**WE018034**
Platinum Sampler Cone	1	**WE027802**
Platinum Skimmer Cone	1	**WE027803**
Sampler Cone o-rings (Pkg. 5)	1	**N8120511**
Skimmer Cone o-rings (Pkg. 5)	1	**N8120512**

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

New! Guided Navigation online – now you can find what you are looking for faster!

Find all of your Atomic Spectroscopy consumables quickly with our newly enhanced website

With our extensive offering of consumables available you can now find what you need not only by Instrument model, but now by Product Category. Just filter your criteria online to find the product you're looking for and add it to your shopping cart. It's now easier than ever to place your order online. As always, you'll see live product availability; pricing and delivery estimates. You'll also receive automatic order confirmation email and shipping notification.

Top 10 Reasons to Shop Online with PerkinElmer!

10 **NO MORE CUSTOMER NUMBERS:** Get rid of all the Post-it® notes and reminders. Once you register, you will never need your account number again.

9 **ORDER CONFIRMATION EMAILS:** Place an order and receive an email with all the details. Forward this on to others, file it away, print it out!

8 **SHIPMENT NOTIFICATION EMAILS:** Once your order ships, receive an email telling you exactly what shipped including the tracking number. Click on the link to find out exactly where the package is and when it will arrive!

7 **ORDER YOUR WAY:** Do you place numerous orders at one time or standing orders with multiple shipping dates? Click "Quick Order" at the top of any page to try our Multiple Purchase Order or Standing Order tools.

6 **FAVORITES LIST:** Keep up to 20 items handy so you can reorder them without searching.

5 **ORDER HISTORIES:** Access up to 2 years of order history including all orders, whether they were placed over the phone, fax or web.

4 **SHOP BY PRODUCT NUMBER:** Start typing the Product Number and our system will do the rest—an automatic drop down selection will show you the possible matches.

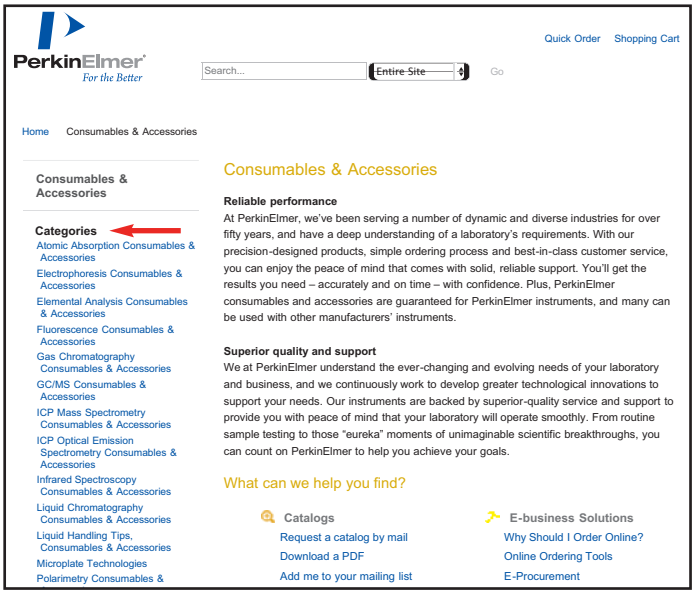
3 **ALL STANDARD PAYMENT TYPES ACCEPTED:** PerkinElmer's online ordering system accepts Credit Cards or your Purchase Order numbers just like ordering by phone.

2 **REAL-TIME INVENTORY AVAILABILITY:** Place an order and get immediate inventory availability information—the most up-to-date information possible.

And the #1 Reason why PerkinElmer customers should shop online…

1 **CUSTOMER-SPECIFIC PRICING:** Access your customer specific pricing online instantaneously.

Choose a Product Line: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Consumables & Accessories
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Consumables & Accessories
Reliable performance
At PerkinElmer, we've been serving a number of dynamic and diverse industries for over fifty years, and have a deep understanding of a laboratory's requirements. With our precision-designed products, simple ordering process and best-in-class customer service, you can enjoy the peace of mind that comes with solid, reliable support. You'll get the results you need – accurately and on time – with confidence. Plus, PerkinElmer consumables and accessories are guaranteed for PerkinElmer instruments, and many can be used with other manufacturers' instruments.
Superior quality and support
We at PerkinElmer understand the ever-changing and evolving needs of your laboratory and business, and we continuously work to develop greater technological innovations to support your needs. Our instruments are backed by superior-quality service and support to provide you with peace of mind that your laboratory will operate smoothly. From routine sample testing to those "eureka" moments of unimaginable scientific breakthroughs, you can count on PerkinElmer to help you achieve your goals.
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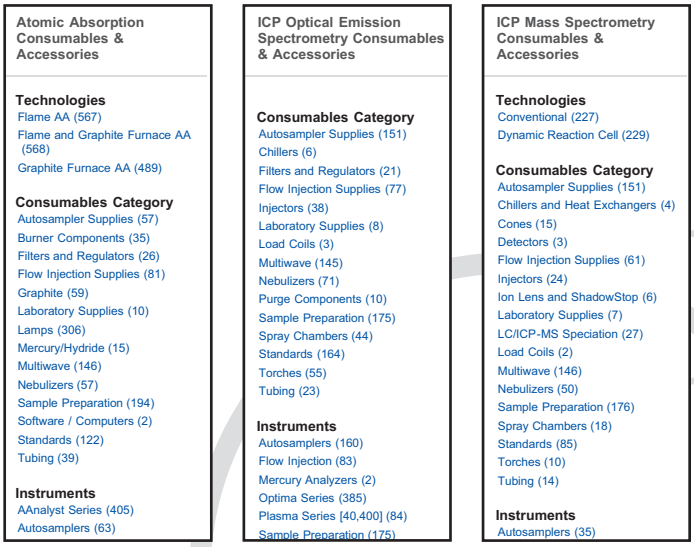

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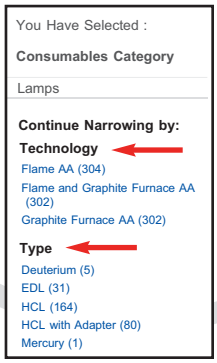


Dependable Service coverage to enhance your productivity and performance

Maximize instrument performance and uptime

From unplanned repair expenses to lost productivity, few events can be as disruptive as the failure of a key instrument. With a service and support plan from PerkinElmer, your lab will be protected from unplanned downtime and unexpected expense.

Planning for future service needs as part of your new instrument budget proposal or purchase order will enable your laboratory to:

- Fix the cost of ownership of mission critical or revenue generating instrumentation
- Ensure seamless continuation of support when the initial 12-month warranty expires
- Eliminate administration costs incurred by continually renewing contracts
- Avoid having to re-justify maintenance expense at a future date
- Make use of funds now that may not be available in the future

Call your local sales representative to learn more about the PerkinElmer service and support products that the most successful global corporations, research facilities and analytic laboratories use to enhance their performance.

OneSource® Laboratory Services

Three service plan options are available to meet your needs

PerkinElmer's range of multi-year service plans eliminates the risk of unbudgeted service expense and ensures instrumentation is maintained to the highest possible standard throughout its lifetime.

Comprehensive

This plan is ideal for laboratories whose financial success depends on the consistent availability and high performance of their scientific instruments.

Basic

This plan is ideal for medium to large laboratories that require predictable instrument performance.

Repair

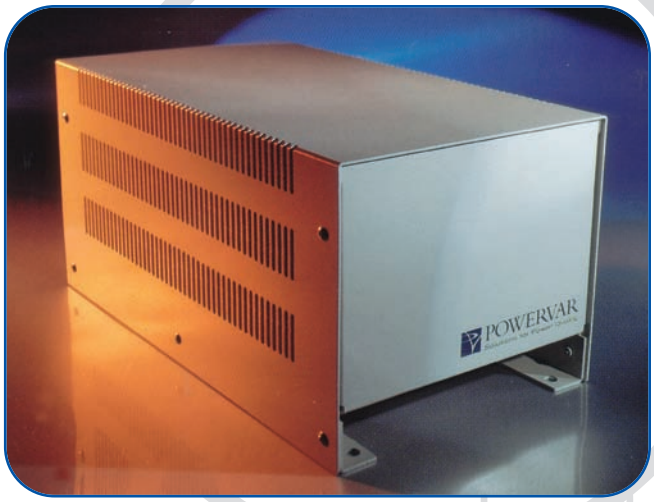
The Repair service plan is ideal for small to medium laboratories seeking to maximize limited maintenance budgets and maintain instrument performance.

Three Options of Service Plan Packages

PerkinElmer Service Benefits	**Comprehensive** Maximum Uptime	**Basic** Managed Expense	**Repair** Dependable Protection
Core Benefits			
Priority On-Site Response	Within 48 hours		
Preventative Maintenance	2 Annual Visits	1 Annual Visit	
Training	15% off	5% off	
PerkinElmer Certified Parts	100% included	100% included	100% included
Expert Service Engineers	100% included	100% included	100% included
Travel to your Location	100% included	100% included	100% included
Additional Features			
Online Support Resources	100% included	100% included	100% included
Responsive Technical Support	100% included	100% included	100% included
Service History Tracking	100% included	100% included	100% included
Six Sigma & ISO Best Practices	100% included	100% included	100% included

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

NEW! PowerVar Power Conditioners



Avoid all of the unnecessary costs - financial and otherwise - of equipment downtime

Whatever your business, equipment that crashes can cause real problems for your entire operation.

Damaged or compromised components, disrupted processes, lack of reliability . . . they all add up to frustration, broken schedules and costly downtime. The problem is caused by a host of power disturbances — some visible and many invisible — that threaten your equipment's operation every year. Power "disturbances" are simply those large and small variations in the quality of the electric power you use day in and day out. Some come from your local utility company, but most are created within your own facility as a result of the distribution and use of electrical power. These variations include high-energy voltage transients, sags and swells, electrical noise, and common mode voltage, as well as the power outages everyone witnesses when the lights go out.

The vast majority of these disturbances are likely to be unnoticeable, that is, until you have to deal with the expensive consequences. Many types of disturbances can damage sensitive computer systems and other electronic equipment — either immediately or over time. Most can disrupt system operations, causing lockups, lost data, no-trouble-found service calls, and unexplained failures, interrupting system performance and costing you time and money.

Features and Benefits

- Conditioners provide clean power at 120, 208 or 240 VAC for loads up to 62 amps
- Dual-output models can protect both high-voltage system loads and low-voltage peripherals at less expense and effort than installing two conditioners
- All models include POWERVAR's five-year warranty on parts and labor
- High-voltage surges
- Common-mode voltage
- Electrical noise
- Voltage swells and sags
- Power outages.
- Unstable AC frequency
- Ground loops

For our complete listing of supplies, please visit:
www.perkinelmer.com/supplies

Choose the model for your instrument

Model	Instruments	Hz	Part No.
5.2 kVA	AA Spectrometer 5100	60	**N9307504**
3.8 kVA	ELAN 5000/6X00/9000 Controller side	60	**N9307519**
2.4 kVA	AAnalyst 100/200/300/400	60	**N9307506**
3.8 kVA	Optima 3X00/AAnalyst 700	60	**N9307509**
5.8 kVA	AAnalyst 600/800/ELAN 5000/6X00/9000 RF Gen side	60	**N9307511**
3.8 kVA	Optima 2X00/4X00/5X00/7X00	60	**N9307512**
7.5 kVA	AA Spectrometer 5100/AAnalyst 100/200/300/400	50	**N9307521**
3.6 kVA	AAnalyst 700/Optima 2X00/4X00/5X00/7X00/ELAN Controller side	50	**N9307522**
6 kVA	AAnalyst 600/800	50	**N9307523**
6 kVA	ELAN 5000/6X00/9000 RF Gen side	50	**N9307524**

Security Plus UPS

5.2 kVA On-Line Conditioned Uninterruptable Power Supply

With the Security Plus Series, you get much more protection and a higher comfort level than you get with most other UPS systems. The Security Plus Series also provides complete power conditioning and, because the Security Plus Series features on-line inverter design, added peace of mind. And regardless of input fluctuations, the Security Plus Series insures that the output remains continuous and regulated.

Description	Part No.
5.2KVA On-Line Conditioned UPS 50/60Hz	**N0777511**

Input

Voltage (VAC)	200	208	220	230	240
Voltage Range (VAC)	140–230	146–239	154–253	161–264	168–276
Voltage Tolerance	+ 15% ~ -30% before switching to batteries				
Frequency (Hz)	50/60				
Frequency Tolerance	42 Hz to 69 Hz before switching to batteries				
Input PF	> 0.95				
Input Current THD	< 5.0%				

NEW!

PerkinElmer SMS 100 Mercury Analyzer

Amalgamator Tube

Sample Boat Rack

Catalyst Tube

Mercury analysis directly on solid samples from the undisputed leader in Atomic Spectroscopy

The SMS 100 is a dedicated mercury analyzer for the determination of total mercury in solid and liquid samples using the principle of thermal decomposition, amalgamation and atomic absorption described in U.S. EPA Method 7473.

The SMS 100 uses a decomposition furnace to release mercury vapor instead of the chemical reduction step used in traditional liquid-based analyzers. Both solid and liquid matrices can be loaded onto the instrument's autosampler and analyzed without acid digestion or sample preparation prior to analysis. Because this approach does not require the conversion of mercury to mercuricions, lengthy sample pretreatment steps are unnecessary. As a result, there is no need for reagents such as highly corrosive acids, strong oxidizing agents or reducing chemicals...which means, NO hazardous waste disposal. The immediate benefit to the user is a reduction in analysis time, resulting in a significantly lower cost of analysis compared to conventional mercury analyzers. Some of the many sample matrices applicable to SMS 100 technology include sludges, sediments, soils, wastewaters, effluents, coal, fly ash, minerals, ores, fertilizers, various foodstuffs, blood, urine and hair.

Features and Benefits

- No Sample Preparation
- Extremely Low Detection Limits
- Full Automation for Maximum Productivity
- Easy to Maintain

Description	Part No.
SMS 100 Automated Mercury Analyzer 110V/60Hz	**N9309000**
SMS 100 Automated Mercury Analyzer 220V/50Hz	**N9309001**

SMS 100 Consumables

Description	Part No.
Spares Kit Basic	**N9309109**
Spares Kit Extended	**N9309110**
Nickel Boats qty. 42	**N9309017**
Quartz Combustion Boats qty. 10	**N9309032**
Replacement Carbon 500 g	**N9309035**
Catalyst Tube (packed)	**N9309036**
Autosampler Boat Shuttle	**N9309019**
Exhaust Tubing Assembly	**N9309006**
Amalgamator Tube	**N9309007**
Mercury Lamp	**N9309010**
Hg Vapor Trap Kit with Carbon Material	**N9309011**
Nafion® Drying Tube	**N9309021**
Chromosorb® 250 mL	**N9309103**
Mercury Stock Solution 100 ppm	**N9309106**

Spares Kits

Description	Qty.	Part No.
Basic Spares Kit		**N9309109**
Includes:		
Amalgamator tube	1	N9309007
Mercury source lamp	1	N9309010
Nafion® drying tube	1	N9309021
O-ring kit	1	N9309029
Extended Spares Parts Kit		**N9309110**
Includes:		
Amalgamator tube	2	N9309007
Sample gas tubing assembly	1	N9309008
Mercury source lamp	1	N9309010
Injector fork assembly	1	N9309012
CVAAS tubing kit	1	N9309013
Amalgamator heater coil	1	N9309066
6 g Krytox® tube grease	1	N9309108
Nafion® drying tube	1	N9309021
Quartz windows	6	N9309024
O-ring kits	2	N9309029
Window end caps	8	N9309031
5 inch optical cells	2	N9309033
1 inch optical cell	1	N9309034

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

Autosampler **sampling probes** and **components**

AS-90/90A/90*plus*/91/93*plus*/S10 Sampling Probe Assemblies

Stainless Steel

Description	Part No.
Flame Sampling Probe Assembly, 0.6 mm i.d. Includes Stainless Steel Sampling Probe and Screw Fitting (B3000152) and Flame Capillary (B3000157–replaces B0196963) Tubing Assembly.	**B3000159**
FIAS™ Sampling Probe Assembly, 0.6 mm i.d. Includes Stainless Steel Sampling Probe and Screw Fitting (B3000152) and FIAS Capillary Tubing Assembly (B3000158–replaces B0196966).	**B3000160**
FIAS Standard Sampling Probe Assembly, 1.0 mm i.d. Includes Stainless Steel Sampling Probe and Screw Fitting (B3000152) and FIAS Capillary Tubing Assembly (B0191060–replaces B0501044).	**B3000161**

Corrosion-Resistant

Corrosion-resistant probes are suitable for inorganic acids and most organic solvents, except NMP.

Description	Part No.
Flame Sampling Probe Assembly, 0.6 mm i.d.* Includes Sampling Probe with FEP Tube and Screw Fitting (B3000055) and Capillary Tubing Assembly (B3000157).	**B3001770**
FIAS Sampling Probe Assembly, 0.6 mm i.d.* Includes Sampling Probe with FEP Tube and Screw Fitting (B3000055) and FIAS Capillary Tubing Assembly (B3000158).	**B3001771**
FIAS Standard Sampling Probe Assembly, 1.0 mm i.d.* Includes Sampling Probe with FEP Tube and Screw Fitting (B3001769) and Capillary Tubing Assembly (B0191060).	**B3001772**

** This probe cannot be used with AS-90s, which have the older sampling probe holder.*

Used Oil Autosampler Probe

Autosampler probe for the AS-90*plus,* AS-93*plus* and S10 Autosamplers. The probe includes a particulate filter on the tip to remove fibers.

	Part No.
	N0771529

Sampling Probe Assembly Components

Description	Part No.
Stainless Steel Sampling Probe with Screw Fitting *Requires, but does not include, one of the capillary tubing assemblies described below.*	**B3000152**
Flame Capillary Tubing Assembly 1 m length, 0.6 mm i.d., one fitting	**B3000157**
FIAS Capillary Tubing Assembly 1 m length, 0.6 mm i.d., two fittings	**B3000158**
FIAS Capillary Tubing Assembly 1 m length, 1.0 mm i.d., two fittings	**B0191060**

Sampling Probe Accessories

Description	Part No.
Cleaning Wire for AS 90/91 Probe	**B0505962**

S10 Autosampler

ESI Autosampler Probes

Autosampler Probes

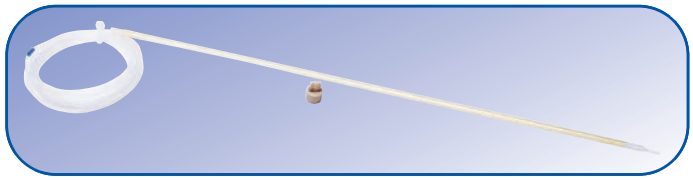
Description	Part No.
Autosampler Probe, 0.15 mm	**N0777221**
Autosampler Probe, 0.20 mm	**N0777222**
Autosampler Probe, 0.25 mm	**N0777223**
Autosampler Probe, 0.30 mm	**N0777224**
Autosampler Probe, 0.50 mm	**N0777225**
Autosampler Probe, 0.80 mm	**N0777226**

Sample Probes

Description	Part No.
High Flow, Carbon Fiber Support, 0.8 mm i.d. (blue)	**N0777285**
Low Flow, Carbon Fiber Support, 0.8 mm i.d. (blue)	**N0777266**
Sample Probe Line Holder	**N0777227**

Carrier Probes

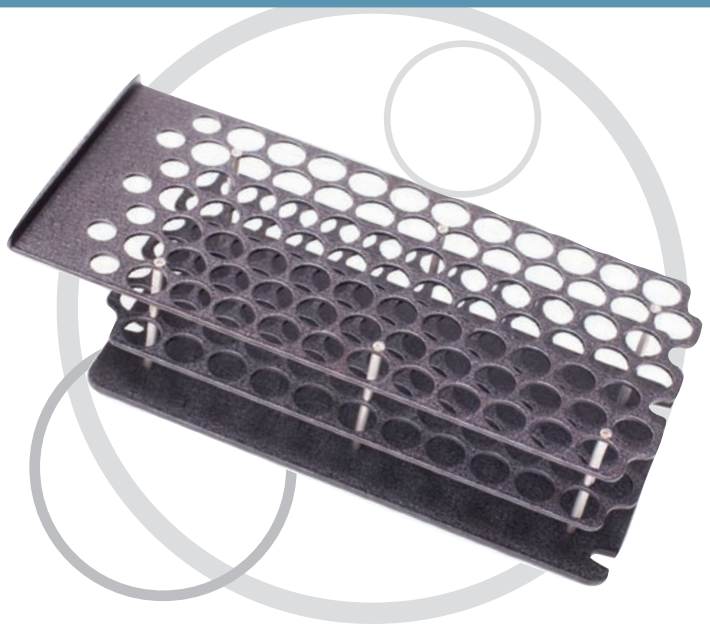
Description	Part No.
High Flow, Carbon Fiber Support, 0.5 mm i.d. (orange)	**N0777286**
Low Flow, Carbon Fiber Support, 0.5 mm i.d. (orange)	**N0777267**



Cetac Autosampler Probes

Description	Part No.
Cetac Autosampler Probe, 12 inch length, 0.5 mm i.d.	**N0774088**
Cetac Stainless Steel Sample Probe with Filter Tip	**N0777146**

Sample Vials, Racks and Supplies for a



SPECIAL SAVINGS OFFERS
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Save on Autosampler Vessels!

Please contact your local sales office for more details.

Delivering Enhanced Value and Outstanding Savings on the products you use most!

Sample Vessels

Translucent polypropylene vessels with excellent chemical resistance.

Capacity	Qty.	Part No.
4.5 mL	1,000	**N9301204**
6 mL*	500	**B0193235**
8 mL	1,000	**B0508901**
15 mL*	500	**B0193233**
16 mL	1,000	**N9301205**
50 mL*	500	**B0193234**

**Includes screw caps.*

Sample Trays

AS-90/90A/90*plus* Sample Trays

Description/Capacity	Sample Vessel Size	Part No.
Tray A – 144	4.5 mL, 6 mL, 8 mL	**B3000133**
Tray B – 98**	15 mL, 16 mL	**B3000132**
Tray C – 36	50 mL	**B3000135**
Blank Tray		**B0501056**

***Polypropylene sample tray.*

AS-91 Sample Trays

Description/Capacity	Sample Vessel Size	Part No.
Tray E – 218	4.5 mL, 6 mL, 8 mL	**B0509554**
Tray F – 152	15 mL, 16 mL	**B0509555**
Tray G – 55	50 mL	**B0508520**

Trays A, C, E, F and G are powder-coated, corrosion-resistant aluminum.

AS-93*plus*/S10 Sample Trays

Description/Capacity	Sample Vessel Size	Part No.
Tray F – 9/29	50 mL/15 mL	**B3001647**
Tray E – 90	4.5 mL, 6 mL, 8 mL	**B3140617**
Tray F – 60	15 mL, 16 mL	**B3140618**
Tray G – 30	50 mL	**B3140621**

AS-93plus sample trays are polypropylene.

AS-93*plus*/S10 Rinsing Kit

Description	Part No.
AS-93*plus* Rinsing Kit	**B3140236**

Spare Parts

Rinsing Port	**B3140622**
Adapter M	**B0507919**
Pump Tube – 2.79 mm i.d. (pkg. 6)	**B3140721**
Pump Tube – 1.14 mm i.d. (pkg. 6)	**B3140730**
Tygon® Drain Tube – 2 m	**B0509650**
PVC Rinse Liquid Feed Tube – 2 m	**B0048139**
Connector	**B3140715**

Cetac Autosampler Supplies

Racks

Rack	Vial Size	Part No.
21-Position	50 mL	**N0777152**
24-Position	30 mL	**N0777151**
40-Position	20 mL	**N0777150**
40-Position	20 mL	**N0777169**
40-Position/Gilson 29	20 mL	**N0777155**
45-Position/120 cc Sample Rack (oils)		**N0777298**
60-Position	14 mL	**N0777149**
80-Position Collection Metal for Oil		**N0774085**
90-Position	8 mL	**N0777148**
90-Position (Round Hole)	8 mL	**N0777153**
90-Position Collection Metal for Oil		**N0777154**

Polypropylene Vials

Capacity	Size	Qty.	Part No.
8 mL	13 mm x 100 mm	1,000	**N0777156**
8 mL	13 mm x 100 mm	250	**N0777159**
12 mL	13 mm x 100 mm	1,000	**N0777165**
12 mL	13 mm x 100 mm	250	**N0777166**
14 mL	16 mm x 100 mm	1,000	**N0777157**
14 mL	16 mm x 100 mm	250	**N0777160**
15 mL	17 mm x 100 mm	1,000	**N0777167**
15 mL	17 mm x 100 mm	250	**N0777168**
20 mL	21.5 mm x 100 mm	500	**N0777161**
20 mL	21.5 mm x 100 mm	100	**N0777163**
30 mL	25 mm x 95 mm	500	**N0777162**
50 mL	30 mm x 115 mm	500	**N0777158**
50 mL	30 mm x 115 mm	100	**N0777164**

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

ESI Autosampler Supplies

Racks and Rack Covers

Standard Racks

Description	Size	Diameter	Part No.
10-Position		28 mm	**N0777228**
24-Position	4 x 6	14 mm	**N0777234**
Adapter Plate*			**N0777235**

**For Gemetec/Cetac ASX-100's racks*

Micro Racks

Description	Size	Diameter	Part No.
21-Position	3 x 7	14 mm	**N0777229**
40-Position	4 x 10	14 mm	**N0777230**
60-Position	5 x 12	8 mm	**N0777231**
90-Position	5 x 12		**N0777232**
Cover for Micro Racks			**N0777233**

Large Racks

Description	Size	Diameter	Part No.
21-Position	3 x 7	30 mm	**N0777242**
40-Position	4 x 10	20 mm	**N0777243**
60-Position	5 x 12	16 mm	**N0777244**
90-Position	6 x 15	13 mm	**N0777245**

Super Racks

Description	Size	Diameter	Part No.
10-Position*	2 x 5	61 mm	**N0777253**
12-Position	2 x 6	50 mm	**N0777252**
21-Position	3 x 7	22 mm	**N0777251**
21-Position	3 x 7	28 mm	**N0777250**
21-Position	3 x 7	30 mm	**N0777249**
27-Position	3 x 9	28 mm	**N0777248**
80-Position	5 x 16	16 mm	**N0777247**
120-Position	6 x 20	13 mm	**N0777246**

**Holds 205 mL bottles.*

PFA Bottles and Vials

Description	Size	Dimension	Qty.	Part No.
PFA Ridged Vial for press-on cap	1 mL	24 mm high, 14 mm Tube o.d.	10	**N0777403**
PFA Ridged Vial for press-on cap	2 mL	36 mm high, 14 mm Tube o.d.	10	**N0777404**
PFA Ridged Vial for press-on cap	4 mL	60 mm high, 14 mm Tube o.d.	10	**N0777405**
PFA Graduated Vial	1 mL	24 mm high, 14 mm Tube o.d.	10	**N0777399**
PFA Graduated Vial	2 mL	36 mm high, 14 mm Tube o.d.	10	**N0777400**
PFA Graduated Vial	4 mL	60 mm high, 14 mm Tube o.d.	10	**N0777401**
PFA Bottle	20 mL	60 mm high, 28 mm o.d.	5	**N0777406**
PFA Bottle	100 mL	105 mm high, 50 mm o.d.	1	**N0777407**
Press-on Caps		14 mm o.d. PFA Vials	10	**N0777393**
Dust Protection Caps		14 mm o.d. PFA Vials	10	**N0777392**
PFA Cap		14 mm vials, press fit	10	**N0777402**

Sample Loops

Connects to Ports 1 and 4.

Size	Part No.
0.25 mL	**N0777046**
0.5 mL	**N0777289**
1 mL	**N0777290**
2 mL	**N0777291**
3 mL	**N0777292**
4 mL	**N0777293**
500 µL	**N0777274**
1,000 µL	**N0777275**
2,000 µL	**N0777276**

ST Nebulizer Lines

Description	Size	Marker	Part No.
Connects to Port 3	0.15 i.d.	Red	**N0777269**
Connects to Port 3	0.20 i.d.	Purple	**N0777270**
Connects to Port 3 (low flow)	0.25 i.d.	Green	**N0777271**
Connects to Port 3 (high flow)	0.25 i.d.	Green	**N0777287**
Connects to Port 3	0.30 i.d.	Yellow	**N0777272**
Connects to Port 3 (low flow)	0.50 i.d.	Orange	**N0777273**
Connects to Port 3 (high flow)	0.50 i.d.	Orange	**N0777288**

PerkinElmer pioneered the use of flow injection techniques for atomic spectroscopy

The use of flow injection saves time, money and manpower — while at the same time, extending your analytical flexibility and capabilities.

PerkinElmer carries a wide selection of genuine supplies and accessories for your FIMS-100, FIMS-400, FIAS-100 or FIAS-400. Keeping your system in good working order by using only the best replacement parts is the first step in assuring quality analytical performance. Regular maintenance and/or replacement of consumables such as tubing, connectors and adapters will maximize the lifetime and productivity of your PerkinElmer flow injection system.

For our complete listing of Sampling Supplies, please visit:
www.perkinelmer.com/supplies

Adapter with Internal Thread

¼ in (6.4 mm) Internal Screw Thread

Type*	Description	Part No.
A B	A 1.8 mm o.d. nipple B 3.3 mm o.d. nipple	B0193342 B0506716
C	4 mm o.d. nipple	B0196850
E	For the quartz cell	B0196857
F	0.7 mm o.d. Pt/Ir capillary nipple	B0193873
G	Two nipples to connect tubes to the pre-concentration accessory	B0501580

Connectors

Type*	Description	Part No.
IA	Connector with nipples for 1.7 to 3.2 mm i.d. tubes	B0199233
IB	Connector with nipples for 2.4 to 3.2 mm i.d. tubes	B0196882
II	Connector with ¼ in (6.4 mm) internal screw thread	B0196704
IIIA	T-piece with nipples for 1.5 to 2.5 mm i.d. tubes	B0199035
IIIB	T-piece with nipples for 3.5 to 4.5 mm i.d. tubes	B0198201

Adapter with External Thread

¼ in (6.4 mm) External Screw Thread

Type*	Description	Part No.
K L	K 1.8 mm o.d. nipple L 2.8 mm o.d. nipple	B0507918 B0507920
M	4 mm o.d. nipple	B0507919
N	0.7 mm o.d. Pt/Ir capillary nipple	B0507949
	Screw Plug	B0507921

** Type designation refers to diagrams in instrument manuals.*

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

Flow Injection System

Mixing/Separation Assembly

Complete modular unit, consisting of two mixing manifolds with tubing adapters, a gas liquid separator with a PTFE membrane, five spare PTFE membranes, one PTFE tube (110 mm long) and one PTFE tube (300 mm long).

Part No.
B0507957

Mixing Blocks

Modular "building block" type mixing manifold with one mixing channel and three connections, two inlet and one outlet. Made from chemically-resistant plastic. Several of these blocks can be "plugged" together easily to create a single unit with enhanced mixing capabilities.

Part No.
B0507962

Gas/Liquid Separator

Modular "building block" type gas-liquid separator made from chemically-resistant plastic. An exchangeable PTFE membrane in the screw cap of the separator prevents liquid from being carried into the quartz cell when working with strong foaming samples.

Part No.
B0507959

Tool, Screw Connectors

For convenient tightening and loosening of the screw connectors used with PTFE tubing assemblies.

Part No.
B0501315

Flow Injection Furnace Supplies

Description	Part No.
FIAS-Furnace Sample Transfer Tube	B0509612
Quartz Pipette Tip/20 mm (pkg. 1)	B0510032
Silicone Tube	B0029796

Sample Loops

Description	Part No.
200 µL	B0194048
500 µL	B0194049
1,000 µL	B0501000

Tubing

Peristaltic pump tubing has a wall thickness of 0.84 mm. Part numbers are for a package of 12 pieces.

Peristaltic Pump Tubing

Tubing i.d.	Color Code	Part No.
0.76 mm	Black/black	B0506058
1.14 mm	Red/red	B0193160
1.52 mm	Yellow/blue	B0193161
2.06 mm	Violet/violet	B0199034
3.18 mm	Black/white	B0508310

Peristaltic Pump Tubing, Solvent-Resistant

1.14 mm	White/white	B0507692

PTFE Tubing

Tubing i.d.	Length	Part No.
0.35 mm	1 m	B0506060
0.5 mm	1 m	B0507020
0.7 mm	1 m	B0507021
1.0 mm	1 m	B0029792
1.75 mm	1 m	B0017998

PTFE Tubing Assemblies

	Screw Fittings		
Tubing i.d.	Color	Length	Part No.
0.35 mm	White	60 mm	B0501594
1.0 mm	Blue	110 mm	B0191058
1.0 mm	Blue	300 mm	B0198097
1.0 mm	Blue	700 mm	B0191059
1.0 mm	Blue	1,000 mm	B0191060
1.75 mm	Black	250 mm	B0198099
1.75 mm	Black	450 mm	B0198100
3-dimensional reactor 0.35 mm (two flanged ends)			B0501595

PVC Tubing

Description	Part No.
3 mm i.d. with 1 mm wall thickness, no fittings *Price per meter.*	B0048139

Silicone Tubing

Description	Part No.
1 m x 5 mm i.d., no fittings	B0018283
1 m x 3 mm i.d.	B0070126
For FIMS Cell Exhaust Outlet, 3 m	B0046948

Gas/Liquid Separator Consumables

Description	Part No.
Glass Gas/Liquid Separator	B0193772
Gas/Liquid Separator Holder for Glass Separator	B0509479
PTFE Membrane (pkg. 50)	B0508306
Mixing Manifold for Glass Gas/Liquid Separator	B0187258

Ensure **reproducibility** by replacing **your tubing** frequently

SPECIAL SAVINGS OFFERS from PerkinElmer!

Save when you purchase 2-packs of **ICP PumpTubing**

Please contact your local sales office for more details.

Delivering Enhanced Value and Outstanding Savings on the products you use most!

Standard PVC Tubing

- An economical high-performance material with great versatility for a wide range of uses

Description	Color	Pkg.	Part No.
0.19 mm i.d.	Orange/Red	12	**N0695476**
0.25 mm i.d.	Orange/Blue	12	**N0773117**
0.38 mm i.d.	Orange/Green	12	**N0777110**
0.76 mm i.d.	Black/Black	12	**09908587**
1.14 mm i.d.	Red/Red	12	**09908585**
1.52 mm i.d.	Yellow/Blue	12	**09923536**
3.16 mm i.d.	Black/White	12	**N8122012**

Flared Tubing

Description	Color	Pkg.	Part No.
0.19 mm i.d.	Orange/Red	12	**N0773111**
0.25 mm i.d.	Orange/Blue	12	**N0773112**
0.44 mm i.d.	Green/Yellow	12	**N0773113**
0.38 mm i.d.	Orange/Green	12	**N0777042**
0.76 mm i.d.	Black/Black	12	**N0777043**

Silicone Tubing

- A flexible, long-life translucent material with good chemical and environmental resistance

Description	Color	Pkg.	Part No.
0.76 mm i.d.	Black/Black	6	**00473552**
1.02 mm i.d.	White/White	6	**N0777441**
1.14 mm i.d.	Red/Red	6	**N0691595**
1.30 mm i.d.	Gray/Gray	6	**N0777443**
2.79 mm i.d.	Purple/White	6	**09923448**

Solvent Flex Tubing

- A flexible, translucent yellow PVC based compound with particular resistance to petrol and kerosene and many aromatic hydrocarbons

Description	Color	Pkg.	Part No.
0.76 mm i.d.	Black/Black	12	**00473550**
1.14 mm i.d.	Red/Red	12	**09923037**

Viton Tubing

- A unique fluoroelastomer with excellent chemical resistance to acids, alkalis, oils, fuels and most aromatic hydrocarbons

Description	Color	Pkg.	Part No.
0.51 mm i.d.	Orange/Yellow	12	**N0777446**
0.76 mm i.d.	Black/Black	12	**N0773118**
1.02 mm i.d.	White/White	12	**N0777442**
1.14 mm i.d.	Red/Red	12	**N0773115**
1.30 mm i.d.	Gray/Gray	12	**N0777445**
1.65 mm i.d.	Blue/Blue	12	**N0777447**

Santoprene® Tubing

- Flexible tough opaque thermoplastic rubber with excellent resistance to both acids and alkalis

Description	Color	Pkg.	Part No.
1.14 mm i.d.	Red/Red	12	**N0773119**
1.30 mm i.d.	Gray/Gray	12	**N0777444**
1.85 mm i.d.	Green/Green	12	**N0773116**

PharMed® Drain Tubing

- Used for drain only

Description	Color	Pkg.	Part No.
2.79 mm i.d.	White/Violet	12	**N8122252**

Other Tubing

Description	Dimensions	Part No.
Polyethylene Nebulizer Tubing	3 m length, 0.6 mm i.d. x 0.97 mm o.d.	**09908265**
Teflon® Tubing	1 m length, 1 mm i.d.	**B0029792**
PTFE Tubing	0.3 m length, 0.79 mm o.d. x 0.41 mm i.d.	**09985708**

Internal Standard Kits

Includes: Mixing T-piece, Internal Standard Probe, Sample Tubings, Gripper Paper and Orange-Blue Flared End PVC Tubing.

Description	Part No.
Non-HF Resistant Internal Standard Kit	**N0774068**
HF Resistant Internal Standard Kit	**N0774067**

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

Recirculating chillers provide clean and reliable temperature controlled fluid

WhisperCool™ Chiller for ICP-OES and ICP-MS

Water cooling systems (chillers) provide clean, reliable temperature controlled fluid for open tanks or closed loop cooling. The PolyScience WhisperCool Refrigerated Chiller is designed to deliver performance over a broad range of operating temperatures and conditions.

For added operational safety, they also feature audible and visual alarms that alert you instantly when operating parameters exceed pre-set limits. There are even user adjustable high and low temperature limits to help prevent unauthorized set point changes, plus built-in safeties to alert you to low fluid levels and thermal runaway. Extremely dependable and energy efficient, it features a -10° to 40 °C range, built-in process and equipment protection, and highly intuitive.

- Extra-large digital displays
- Temperature and pressure/ flow rate readouts
- Low flow alarm
- High and low temperature alarms
- One-touch temperature control
- Quiet operation
- Simple maintenance

Chiller Coolant Mix

Non-glycol coolant, which is made up of five half gallon bottles of distilled water and includes an additive to control black algae and other resistant strains.

	Part No.
	N0776099

ELAN Coolant Fluid

1 liter bottle. It is essential that this chiller coolant be used with ELAN 9000/6X00/DRC series instruments. Also suitable for organics chillers.

	Part No.
	WE016558

Heat Exchanger System

Cooling systems for the ELAN 9000/DRC II/e systems. Air cooled recirculator without refrigeration. Not to be placed in areas with temperatures above 30 °C (86 °F). Requires the use of ELAN Coolant Fluid (WE016558).

ICP-MS Power Requirement	Part No.
120 V, 60 Hz	N8122248
220/250 V, 50/60 Hz	N8122247

Blower and Vent Assembly for AA and ICP

A venting system is required to remove fumes and vapors from the torch of ICP emission spectrometers. A vent is recommended for use over the power supply unit of most ICP spectrometers for removal of dissipated heat. Use exhaust venting to:

- Protect lab personnel from toxic vapors
- Protect your instrument from corrosive vapors
- Improve stability of the ICP torch

Includes Exhaust Hood, Adapter and Blower. Does not include ducting. PerkinElmer service engineers are not permitted to install this unit.

Description	Part No.
110V	03030447
230V	03030448

Chillers/Recirculating Water Cooling Systems

ICP Model	Power Requirement	Operating Temp.	Flow Rate	Part No.
ELAN 5000/6X00/DRCs	208–230 V, 60 Hz, 8 A	-15° to 40 °C	60 psi: 4.3 gpm/16.3 Lpm	N0772036
ELAN 5000/6X00/DRCs	240 V, 50 Hz, 8.5 A	-15° to 40 °C	60 psi: 4.3 gpm/16.3 Lpm	N0772035
Optima 2X00/4X00/5X00/7X00	208–230 V, 60 Hz, 8 A	-15° to 40 °C	60 psi: 4.3 gpm/16.3 Lpm	N0772036
Optima 2X00/4X00/5X00/7X00	240 V, 50 Hz, 8.5 A	-15° to 40 °C	60 psi: 4.3 gpm/16.3 Lpm	N0772035
Optima 3X00	120 V, 60 Hz, 13.1 A	-5° to 40 °C	60 psi: 1 gpm/3.8 Lpm	N0691883
Optima 3X00	240 V, 50 Hz, 7.3 A	-5° to 40 °C	60 psi: 1 gpm/3.8 Lpm	N0691884

PerkinElmer offers a **full range** of **filters** and **regulators** for your **laboratory**

Acetylene Regulator

Acetylene Regulator

For AA labs, this regulator includes an adapter so that the pressure regulator can be connected to cylinders requiring either CGA 300 or CGA 510 fittings and a connector for attaching the fuel hose assembly supplied with the instrument. Includes hose assembly.

Description	Part No.
Max inlet pressure: 400 psig	**03030106**

Air Regulator

For AA labs. Regulator to cylinder CGA no. 590. Includes hose assembly.

Description	Part No.
Max inlet pressure: 3,000 psig	**03030264**

Nitrous Oxide Regulator

For use in AA labs with gas cylinders with a CGA 326 connection. Provides pressure control from 350–520 kPA (50 – 75 psig) and contains an integral thermostatted heater to prevent freezing of the regulator diaphragm.

Part No.
03030204

Argon/Nitrogen Regulator

For AA and ICP, this regulator can be used with argon or nitrogen and has a CGA 580 fitting. A color-coded hose with ¼ inch SWAGELOK® fittings is also included.

Description	Part No.
Max inlet pressure: 3,000 psig	**03030284**

Matheson Flashback Arrestor

Because acetylene is an extremely unstable gas, users can experience flashbacks at the instrument burner head. The flash arrestor prevents these potentially dangerous flashbacks from reaching the regulator or cylinder.

Description	Part No.
Acetylene max operating pressure: 15 psig	**N9300068**

Hose Assemblies

Hose assemblies for connecting fuel, air and nitrous oxide from supply to instrument.

Description	Part No.
Acetylene, red neoprene, 3.7 m (12 ft)	**00570559**
Air/Argon, black, 3.7 m (12 ft)	**00570567**
Nitrous Oxide, blue, 3.7 m (12 ft)	**00470258**

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

Parker Balston® 73-099 AA Gas Purifier

For AA labs, this wall-mounted system designed to purify the compressed air and acetylene gases used in atomic absorption. It consists of two independent filtration systems, one for compressed air and one for acetylene. The unit also has a flashback arrestor on the acetylene line and a pressure regulator on the compressed air line.

The 2-stage air filtration assembly consists of a Balston Grade DX coalescing filter and a Balston Grade BX coalescing filter. Together these filters remove oil, water and particulate contamination (99.99% at 0.01 micron) from the compressed air supply.

	Part No.
	N9301398

Parker Balston® Replacement Filters

Description	Cartridges Part No.	Seal Sets Part No.
1st Air Filter	**N9301710**	**N9301712**
2nd Air Filter	**N9301711**	**N9301712**
Acetylene Filter	**N9301714**	**N9301715**

Balston® 95A Acetylene Filter

For your AA lab, this filter includes a Balston Grade BQ filter cartridge to remove liquid and solid contaminants from the acetylene supply to 99.99% at 0.01 micron. Max working pressure: 15 psig.

Description	Part No.
Acetylene Filter	**N9301399**
Replacement Acetylene Filter Cartridge	**N9301714**

Balston® Air Filter Assembly Type A-82

For AA and ICP labs, this filter is specifically designed to remove water, oil and dirt particles down to 0.6 microns in diameter from compressed air lines. It is recommended for use with oil-type compressors and for removing moisture and dirt particles from air supplied by oil-less compressors.

Description	Part No.
Air Filter Assembly	**N0580531**
Replacement Filter Cartridge Element	**N0582251**

Air Dryer Filter Assembly with R250 Regulator

To filter compressed air for AA and ICP instrumentation. Replaces 00470652 and N0770198.

Description	Part No.
Air Dryer Filter Assembly with R250 Regulator	**N0775325**
Replacement Filter Element	**N9306067**

Wilkerson® Air Dryer Filter Accessories*

Description	Pre-Filter Part No.	Final Filter Part No.
Filter Elements	**09923464**	**09907120**
Filter Bowls	**N9302199**	**N9302199**
Bowl O-Ring Kit, Final Filter		**N9302197**

**For Wilkerson Filter PerkinElmer (00470652)*

ICP Filter Replacement Parts

ICP Model	Filter Element	Part No.
2X00/3X00/4X00/5X00/7X00	For Pre-Final	**09907122**
2X00/3X00/4X00/5X00/7X00	For Final Filter	**09923464**
2X00/3X00/4X00/5X00/7X00	Water Filter	**09904845**
2X00/3X00/4X00/5X00/7X00	Cartridge for Water Filter	**09904846**
2X00/4X00/5X00/7X00	Air Filter for the RF Generator Inlet	**N0775220**
3X00	Air Filter for the RF Generator Inlet	**02509115**

Instrument Filters

Description	Part No.
For AAnalyst 100/300	**09995097**
For AAnalyst 200/400/600/700/800	**B0501696**
For AAnalyst 600/700/800 (80x80)	**B0502706**
For Optima 2X00/3X00/4X00/5X00/7X00	**09995098**

Polyscience Replacement Air Filters

Description	Part No.
Polyscience Chiller Air Filter	**N0777359**
Heat Exchanger Air Filter	**N0777360**

Whatever your application, you can depend on **PerkinElmer Pure Standards** to yield **reliable, accurate results**

PerkinElmer offers a wide selection of atomic spectroscopy calibration standards. Each solution is supplied with a comprehensive Certificate of Analysis that documents the quality and reliability.

Quality

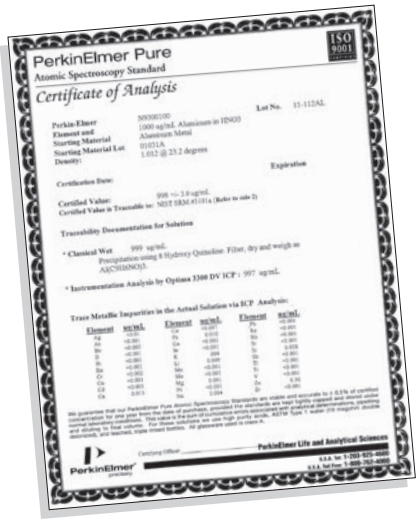
PerkinElmer Pure standards are prepared gravimetrically from high-purity metals and salts, using high-purity reagents.

- ASTM Type I, filtered water minimizes cations, anions and colloids; resistivity is maintained in the 18-megohm range
- Acids used are the highest purity
- Semi-micro analytical balances and Class A volumetric glassware are used and the bottles are subjected to a stringent leaching/cleaning process
- Following preparation, standards are analyzed for the major element as well as trace impurities. The results of the analysis are provided on the Certificate of Analysis

Reliability

Single-element standards are measured by four methods:

1. ICP/ICP-MS analysis of the high pure starting materials for trace impurities (semi-quantitative).
2. Gravimetric, “wet” assay of the major analyte.
3. ICP check of the major analyte.
4. ICP/ICP-MS check of the trace impurities in the final solution.


PerkinElmer Pure
Atomic Spectroscopy Standard
Certificate of Analysis

Safety

We ship standards to comply with both DOT and IATA regulations to ensure their safe delivery to you.

Features

- ISO 9001 accredited by Underwriters Laboratories including comprehensive continuous improvement, product recall, corrective action request and other quality maintenance and improvement programs
- Product labeling meets OSHA, California and EU labeling standards
- Bottles are low-density polyethylene from industry standard Nalge Corporation and are pre-leached and pre-treated for increased product stability and purity
- High-purity acids and ASTM Type I water used in all manufacturing
- Traceability directly to NIST standard reference materials, not independent sources or secondary NIST SRMs
- Wet assays on all single-element products via standard, accepted wet methods and traceable directly to NIST SRM to +/-0.5% of true value and reported on the Certificate of Analysis
- All starting materials tested and confirmed for the absence of interfering anions, e.g. chloride
- Twelve months guaranteed stability +/-0.5% for all major analytes for all products
- Compliance to ISO 17025 quality system requirements. ISO Guide 34

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

Single-Element Calibration Standards

Element	Symbol	Matrix	Starting Material	100 mL Part No.	500 mL Part No.
Aluminum	Al	2% HNO_3	$Al(NO_3)_3 \bullet 9H_2O$	**N9300184**	**N9300100**
Antimony	Sb	2% HNO_3	Sb_2O_3	**N9300207**	**N9300101**
Arsenic	As	2% HNO_3	$H_3AsO_4 \bullet ½H_2O$	**N9300180**	**N9300102**
Barium	Ba	2% HNO_3	$BaCO_3$	**N9300181**	**N9300103**
Beryllium	Be	2% HNO_3	$Be_4O(C_2H_3O_2)_6$	**N9300172**	**N9300104**
Bismuth	Bi	10% HNO_3	Bi	**N9303761**	**N9300105**
Cadmium	Cd	2% HNO_3	Cd	**N9300176**	**N9300107**
Calcium	Ca	2% HNO_3	$CaCO_3$	**N9303763**	**N9300108**
Chromium	Cr	2% HNO_3	$Cr(NO_3)_3 \bullet 9H_2O$	**N9300173**	**N9300112**
Cobalt	Co	2% HNO_3	$CoCO_3$	**N9303766**	**N9300113**
Copper	Cu	2% HNO_3	Cu	**N9300183**	**N9300114**
Gold	Au	10% HCl	Au	**N9303759**	**N9300121**
Hafnium	Hf	2% HCl	$HfOCl_2 \bullet 8H_2O$	**N9303775**	**N9300122**
Iron	Fe	2% HNO_3	Fe	**N9303771**	**N9300126**
Lead	Pb	2% HNO_3	Pb	**N9300175**	**N9300128**
Magnesium	Mg	2% HNO_3	Mg	**N9300179**	**N9300131**
Manganese	Mn	2% HNO_3	$Mn(C_2H_3O_2)_3 \bullet 2H_2O$	**N9303783**	**N9300132**
Mercury**	Hg	10% HNO_3	Hg	**N9300174**	**N9300133**
Molybdenum	Mo	H_2O	$(NH_4)_6Mo_7O_{24} \bullet 4H_2O$	**N9303784**	**N9300134**
Nickel	Ni	2% HNO_3	Ni	**N9300177**	**N9300136**
Palladium	Pd	10% HCl	$(NH_4)_2PdCl_4$	**N9303789**	**N9300138**
Phosphorus	P	H_2O	$NH_4H_2PO_4$	**N9303788**	**N9300139**
Platinum	Pt	10% HCl	$H_2PtCl_6 \bullet XH_2O$	**N9303791**	**N9300140**
Potassium	K	2% HNO_3	KNO_3	**N9303779**	**N9300141**
Scandium	Sc	2% HNO_3	Sc_2O_3	**N9303798**	**N9300148**
Selenium	Se	2% HNO_3	Se	**N9300182**	**N9300149**
Silicon	Si	H_2O	$(NH_4)_2SiF_6$	**N9303799**	**N9300150**
Silver	Ag	2% HNO_3	Ag	**N9300171**	**N9300151**
Sodium	Na	2% HNO_3	Na_2CO_3	**N9303785**	**N9300152**
Sulfur	S	H_2O	$(NH_4)_2SO_4$	**N9303796**	**N9300154**
Tin	Sn	20% HCl	Sn	**N9303801**	**N9300161**
Thallium	Tl	2% HNO_3	$TlNO_3$	**N9300170**	**N9300158**
Titanium	Ti	H_2O	$(NH_4)_2TiF_6$	**N9303806**	**N9300162**
Yttrium	Y	2% HNO_3	Y_2O_3	**N9303810**	**N9300167**
Zinc	Zn	2% HNO_3	Zn	**N9300178**	**N9300168**

The single element standards listed have a concentration of 1,000 µg/mL in aqueous solution. All 100 mL standards are shipped in 125 mL bottles.
***Also available at 10 µg/mL as Part No. N9300253.*

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Atomic Spectroscopy Standards for your

Mixed Calibration Standards

Matrix	Contents	Vol.	Part No.
Mixed Calibration Standard			
2% HNO_3	50 µg/mL: As, K 10 µg/mL: La, Li, Mn, Ni, Sr, Zn 1 µg/mL: Ba, Mg	500 mL	**N0691579**
Mixed Calibration Standard 1			
2% HNO_3	500 µg/mL: Pb 200 µg/mL: Se 150 µg/mL: Cd, Zn 100 µg/mL: Mn 50 µg/mL: Be	100 mL	**N9300200**
Mixed Calibration Standard 2			
5% HNO_3	10,000 µg/mL: Fe 100 µ/mL: Ba, Co, Cu, V	100 mL	**N9300201**
Mixed Calibration Standard 3			
2% HNO_3/tr HF	500 µg/mL: As 100 µg/mL: Mo, Si	100 mL	**N9300202**
Mixed Calibration Standard 4			
5% HNO_3	1,000 µg/mL: Ca 400 µg/mL: K 200 µg/mL: Al, Na 20 µg/mL: Cr, Ni	100 mL	**N9300203**
Mixed Calibration Standard 5			
5% HNO_3/trTartaric Acid/tr HF	1,000 µg/mL: Mg 200 µg/mL: Sb, Tl 100 µg/mL: B 50 µg/mL: Ag	100 mL	**N9300204**

Initial Calibration Verification Standard

Matrix	Vol.	Part No.
5% HNO_3	500 mL	**N9300224**

Contents:

500 µg/mL: Ca, Mg, K, Na	50 µg/mL: Co, V	15 µg/mL: Mn
200 µg/mL: Ba, Al	40 µg/mL: Ni	10 µg/mL: As, Cr, Ag, Tl
100 µg/mL: Fe	25 µg/mL: Cu	5 µg/mL: Cd, Se
60 µg/mL: Sb	20 µg/mL: Zn	3 µg/mL: Pb

Instrument Calibration Standards

Matrix	Contents	Vol.	Part No.
Instrument Calibration Standard 1			
5% HNO_3	5,000 µg/mL: Ca, K, Mg, Na	100 mL	**N9300218**
Instrument Calibration Standard 2			
5% HNO_3	400 µg/mL: Ni 200 µg/mL: Zn 150 µg/mL: Mn 100 µg/mL: Ag, Cr	100 mL	**N9300219**
Instrument Calibration Standard 3			
5% HNO_3	2,000 µg/mL: Al, Ba 1,000 µg/mL: Fe 500 µg/mL: Co, V 250 µg/mL: Cu	100 mL	**N9300220**
Instrument Calibration Standard 4			
5% HNO_3	100 µg/mL: As, Tl 50 µg/mL: Cd, Se 30 µg/mL: Pb	100 mL	**N9300221**
Low UV Standard			
2% HNO_3	10 µg/mL: Al, P, S	250 mL	**N0691580**
Calcium Stray Light Standard			
H_20	10,000 µg/mL: Ca	100 mL	**N0691581**

Contract Required Detection Limits (CRDL)

Matrix	Vol.	Part No.
5% HNO_3/tr Tartaric Acid/tr HF	100 mL	**N9300225**

Contents:

120 µg/mL: Sb	50 µg/mL: Cu	20 µg/mL: Ag, As, Cr, Tl
100 µg/mL:Co, V	40 µg/mL: Zn	10 µg/mL: Be, Cd, Se
80 µg/mL: Ni	30 µg/mL: Mn	6 µg/mL: P

Quality Control Standards

Matrix	Contents	Vol.	Part No.
Quality Control Standard, 21 Elements			
5% HNO_3/tr Tartaric Acid/tr HF	100 µg/mL: As, Be, Ca, Cd, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sr, Ti, Tl, V, Zn	100 mL	**N9300281**
Quality Control Standard, 7A Elements			
5% HNO_3/tr HF	1,000 µg/mL: K 500 µg/mL: Si 100 µg/mL: Al, B, Ba, Na 50 µg/mL: Ag	100 mL	**N9300280**

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Interference Check Standards

Matrix	Contents	Vol.	Part No.
Interference Check Standard 1			
H_2O/tr HNO_3/0.6% Tartaric Acid	100 µg/mL: Sb	100 mL	**N9300207**
Interference Check Standard 5			
5% HNO_3	6,000 µg/mL: Ca 5,000 µg/mL: Fe 3,000 µg/mL: Mg 1,200 µg/mL: Al 1,000 µg/mL: Na	100 mL	**N9300208**
Interference Check Standard 18			
5% HNO_3	20,000 µg/mL: K 1,000 µg/mL: As, Pb, Tl 500 µg/mL: Se 300 µg/mL: Ag, Ba, Cd, Co, Cr, Cu, Ni, V, Zn 200 µg/mL: Mn 100 µg/mL: Be, Hg* **Included in separate bottle.*	100 mL	**N9300205**
Interferents A			
5% HNO_3	5,000 µg/mL: Al, Ca, Mg 2,000 µg/mL: Fe	500 mL	**N9300226**
Alternate Interferents A			
5% HNO_3	1,000 µg/mL: Cr, Cu, Mn, Ni, Ti, V	500 mL	**N9300228**
Analytes B			
5% HNO_3/trTartaric Acid/tr HF	100 µg/mL: Cd, Ni, Zn 60 µg/mL: Sb 50 µg/mL: Ba, Be, Co, Cr, Cu, Mn, V 20 µg/mL: Ag 10 µg/mL: As, Tl	100 mL	**N9300227**
Alternate Analytes B			
5% HNO_3/tr Tartaric Acid/tr HF	100 µg/mL: Al, As, B, Mo, Na, Sb, Se, Tl 10 µg/mL: Ca, Fe, Mg, Si	100 mL	**N9300229**

Spike Sample Analysis

Spike Sample Standard I

Matrix	Vol.	Part No.
5% HNO_3/tr Tartaric Acid/tr HF	100 mL	**N9300230**

Contents:

200 µg/mL: Al, As, Ba, Se, Tl — 25 µg/mL: Cu
100 µg/mL: Fe — 20 µg/mL: Cr
50 µg/mL: Co, Mn, Ni, Pb, Sb, V, Zn — 5 µg/mL: Ag, Be, Cd

Water Pollutant Standards

Matrix	Contents	Vol.	Part No.
Primary Drinking Water Metals			
2% HNO_3	100 µg/mL: Ba 10 µg/mL: Ag, As, Cr, Hg*, Pb 5 µg/mL: Cd, Se **Included in separate bottle.*	100 mL	**N9300216**
Secondary Drinking Water Metals			
2% HNO_3	500 µg/mL: Zn 100 µg/mL: Cu 30 µg/mL: Fe 5 µg/mL: Mn	100 mL	**N9300217**
Trace Metals I			
5% HNO_3	500 µg/mL: Al 250 µg/mL: V 100 µg/mL: As, Be, Co, Cr, Cu, Fe Mn, Ni, Pb, Zn 25 µg/mL: Cd, Se 10 µg/mL: Hg* **Included in separate bottle.*	100 mL	**N9300211**
Trace Metals II			
2% HNO_3	20 µg/mL: Sb, Tl 10 µg/mL: Ag	100 mL	**N9300212**
Trace Metals III			
2% HNO_3	500 µg/mL: Ba, Ca, Mo, Na 100 µg/mL: K, Mg	100 mL	**N9300213**
Alternate Metals I			
2% HNO_3	20 µg/mL: Al, Fe, V 10 µg/mL: Co, Cu, Mn, Ni, Zn 5 µg/mL: Be, Sb, Tl	100 mL	**N9300214**
Alternate Metals III			
2% HNO_3	500 µg/mL: Ca, Na 100 µg/mL: K, Mg	100 mL	**N9300215**

Wavecal Solutions

Matrix	Contents	Vol.	Part No.
VIS Wavecal Solution			
2% HNO_3	50 µg/mL: K 10 µg/mL: La, Li, Mn, Na, Sr 1 µg/mL: Ba, Ca	250 mL	**N9302946**
UV Wavecal Solution			
5% HCl	100 µg/mL: K, P, S 20 µg/mL: As, La, Li, Mn, Mo, Na, Ni, Sc	100 mL	**N0681470**
5% HCl	100 µg/mL: K, P, S 20 µg/mL: As, La, Li, Mn, Mo, Na, Ni, Sc	500 mL	**N0582152**

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Instrument Calibration Standards

Matrix	Contents	Vol.	Part No.
Instrument Calibration Standard 1			
2% HNO_3/tr Tartaric Acid	20 µg/mL: Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Th, Tl, U, V, Zn	100 mL	N9303816
Instrument Calibration Standard 2			
5% HNO_3/tr Tartaric Acid/tr HF	100 µg/mL: Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn	100 mL	N9301721
Instrument Calibration Standard 3			
5% HNO_3	1,000 µg/mL: Fe, K, Ca, Na, Mg	100 mL	N9303818
Initial Calibration Verification Standard 1			
5% HNO_3/tr Tartaric Acid	1,000 µg/mL: Fe, K, Ca, Na, Mg, Sr 10 µg/mL: Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn, Th, U	100 mL	N9303825
Initial Calibration Verification Standard 2			
2% HNO_3/tr HF	10 µg/mL: Sn, Ti	100 mL	N9303826
Elan 6100 DRC Setup/Stab/Masscal Solution			
0.5% HNO_3	10 µg/L: Ba 1 µg/L: Al, Cd, Ce, Cr, Cu, In, Pb, Mg, Mn, Rh, Th	1,000 mL	N8125035
Elan DRC/DRC^{plus}/DRC II Solution Kit			
Solution Kit (*Includes items listed below)*			N8120541
2 x 1,000 mL: Setup/Stability/Masscal Solution			N8125035
2 x 250 mL: Wash Solution			N8125033
1 x 250 mL: Sensitivity/Detection Limit Solution			N8125034
1 x 100 mL: Methanol Blank Solution			N8125037
1 x 100 mL: Chromium in Methanol Solution			N8125038
Elan 9000/6100 Solution Kit			
Solution Kit (*Includes items listed below)*			N8120522
2 x 1,000 mL: Setup/Stability/Masscal Solution			N8125030
1 x 125 mL: Dual-Detector Calibration Solution			N8125032
1 x 500 mL: Wash Solution			N8122038
1 x 250 mL: Detection Limit Solution			N8125031
Elan 9000/6100 Setup/Stability/Masscal Solution			
1% HNO_3	10 µg/L: Ba, Cd, Ce, Cu, In, Pb, Mg, Rh, U	1,000 mL	N8125030
Elan 9000/6X00 Dual-Detector Calibration Solution			
1% HNO_3	200 µg/L: Cd, Cu, Pb, Mg, Rh	1,000 mL	N8125032
Elan 6000/5000 Plasma Setup Solution			
2% HNO_3	10 µg/L: Ba, Cd, Ce, Cu, Ge, Pb, Mg, Rh, Sc, Tb, Tl	1,000 mL	N8122014

Instrument Check Standards

Matrix	Contents	Vol.	Part No.
Instrument Check Standard 1			
2% HNO_3/tr Tartaric Acid/tr HF	10 µg/mL: Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, Sb, Se, Tl, V, Zn	100 mL	N9303821
Instrument Check Standard 3			
2% HNO_3	200 µg/mL: Ca, Fe, K, Mg, Na	100 mL	N9303822
Instrument Check Standard 4			
2% HNO_3	10 µg/mL: Mo, Th, U	100 mL	N9303823
Instrument Check Standard 5			
2% HNO_3/tr HF	10 µg/mL: Mo, Sn, Sr, Ti	100 mL	N9303824

SmartTune Standards

Matrix	Contents	Vol.	Part No.
SmartTune Solution for Standard ELANs/DRC-e			
1% HNO_3	10 µg/L: Ba, Be, Ce, Co, In, Pb, Mg, Rh, U	1,000 mL	N8125040
SmartTune Solution for DRC/DRC^{plus}/DRC II			
0.5% HNO_3	10 µg/L: Ba 1 µg/L: Be, Ce, Co, In, Fe, Pb, Mg, Th, U	1,000 mL	N8125041
Tuning Solution 1			
2% HNO_3/5% HCl	10 µg/mL: Ba, Be, Ce, Co, In, Li, Mg, Pb, Rh, Tl, U, Y	100 mL	N9303843

Wash Standards

Matrix	Vol.	Part No.
ELAN DRC Wash Solution		
0.5% HNO_3	250 mL	N8125033
ELAN 9000/6X00/DRC-e Wash Solution		
1% HNO_3	1 L	N8122038
Water Blank		
ASTM Type I Water, 18 megohm	100 mL	N9303814

See **page 2** for ordering information and a complete listing of PerkinElmer offices.

ICP Applications

Environmental Method Sets

Environmental Standard Kit for non-DRC/Standard ICP-MS Instruments

Description	Part No.
Environmental Standard Kit for non-DRC/Standard ICP-MS Instruments	N9307111

Contents: (1 bottle each, 100 mL)

1,000 µg/mL: Ca, Mg, K, Na
1,000 µg/mL: Al, Fe
100 µg/mL: Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn
100 µg/mL: B, U, Th
10 µg/mL: Hg
Internal Standard Mix

50 µg/mL: Sc	20 µg/mL: Ge	10 µg/mL: In
10 µg/mL: Ir	10 µg/mL: Li6	10 µg/mL: Rh
10 µg/mL: Tb	10 µg/mL: Y	

Environmental Standard Kit for DRC Instruments

Description	Part No.
Environmental Standard Kit for DRC Instruments	N9307112

Contents: (1 bottle each, 100 mL)

1,000 µg/mL: Ca, Mg, K, Na
1,000 µg/mL: Al, Fe
100 µg/mL: Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn
100 µg/mL: B, U, Th
10 µg/mL: Hg
Internal Standard Mix

200 µg/mL: Sc	20 µg/mL: Ga	10 µg/mL: In, Ir, Rh, Tm

Description	Part No.
Contract Lab Program Modification Set	N9307103
Calibration Standard Set for Method 6010	N9307104
Internal Standard Set for Method 6010 & 200.7	N9307105
Interference Solutions for Method 6010	N9307106
Calibration Standards for Method 200.7	N9307107
Interference Solutions for Method 200.7	N9307108
Environmental EPA Set 2	N9307109
Environmental EPA Set 1	N9307110

*Please visit **www.perkinelmer.com/supplies** for complete details.*

Internal Standard Solutions

Matrix	Contents	Vol.	Part No.
Multi-Element Internal Standard			
2% HNO_3	10 µg/mL: Bi, Ho, In, ^{6}Li, Sc, Tb, Y	100 mL	N9303834
Internal Standard Mix			
5-10% HNO_3	10 µg/mL: ^{6}Li, Sc, Ge, Y, In, Tb, Bi	100 mL	N9303832

Performance Verification Standard

Matrix	Contents	Vol.	Part No.
Methanol Blank Solution			
1% Semiconductor Grade		100 mL	N8125037
Chromium in Methanol Solution			
1% Semiconductor Grade Methanol	10 µg/mL: Cr	100 mL	N8125038
Selenium Solution			
5% HNO_3	10 µg/mL: Se	250 mL	N8125039

Multi-Element Standards

Matrix	Contents	Vol.	Part No.
Multi-Element Solution 1			
2% HNO_3	10 µg/mL: Be, Bi, Ce, Co, In, Mg, Ni, Pb, U	100 mL	N9300231
Multi-Element Solution 2			
5% HNO_3	10 µg/mL: Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sc, Sm, Tb, Th, Tm, Y, Yb	100 mL	N9300232
Multi-Element Solution 3			
5% HNO_3	10 µg/mL: Ag, Al, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cs, Cu, Fe, Ga, Hg*, In, K, Li, Mg, Mn, Na, Ni, Pb, Rb, Se, Sr, Tl, U, V, Zn	100 mL	N9300233
	**Included in separate bottle.*		
Multi-Element Solution 3 without Mercury			N9301720
Multi-Element Solution 4			
10% HCl/1% HNO_3	10 µg/mL: Au, Hf, Ir, Pd, Pt, Rh, Ru, Sb, Sn, Te	100 mL	N9300234
Multi-Element Solution 5			
H_2O/tr HF	10 µg/mL: B, Ge, Mo, Nb, P, Re, S, Si, Ta, Ti, W, Zr	100 mL	N9300235

Spike Sample Analysis

Matrix	Vol.	Part No.
Spike Sample Standard I (water)		
5% HNO_3/tr Tartaric Acid/tr HF	100 mL	N9303839

Contents:

500 µg/mL: Fe	50 µg/mL: As, Pb	
250 µg/mL: Ba, Zn	25 µg/mL: Ag, Be, Cd, Se, Tl	
100 µg/mL: Co, Cr, Cu, Mn, Ni, Sb, V		

Matrix	Vol.	Part No.
Spike Sample Standard 2 (soil)		
5% HNO_3/tr Tartaric Acid/tr HF	100 mL	N9303840

Contents:

250 µg/mL: Ba, Cr, Cu, Zn	125 µg/mL: Ni	50 µg/mL: As, Cd
150 µg/mL: V	100 µg/mL: Co, Pb, Sb	25 µg/mL: Ag, Be, Se, Tl

Matrix	Vol.	Part No.
Spike Sample Standard 3 (for ILM 05.2)		
5% HNO_3/tr Tartaric Acid/tr HF	100 mL	N9303841

Contents:

200 µg/mL: Al, Ba	20 µg/mL: Cr	4 µg/mL: As
50 µg/mL: Co, Mn, Ni, V, Zn	10 µg/mL: Sb	2 µg/mL: Pb
25 µg/mL: Cu	5 µg/mL: Be, Cd, Ag, Tl	1 µg/mL: Se

PerkinElmer offers a variety of Sample Preparation Blocks (SPB) and accessories for your lab needs

Features and Benefits

- Ideal for any digestion / heating method which requires a temperature below 180 °C
- Provides uniform temperature (+ / - 1.0 °C across the block)
- Delivers even sample evaporation results
- Teflon® Coated Graphite block resists aggressive, corrosive attack
- Choose from 6 different SPB blocks

Better laboratory practices demand modern techniques in sample preparation. In the past, hot plates were used to digest samples where common digestion problems involve rusting, cross contamination of digestion system to sample, and poor sample temperature control. With no exposed metal components and an outer shell manufactured from Kydex plastic, the SPB blocks reduce the chances of sample contamination.

Each system is constructed with a solid, Teflon-coated, graphite block where a flat heater covers 95% of the block's base. This guarantees temperature uniformity and eliminates hot spots found in hot plates. All PerkinElmer sample preparation blocks are manufactured to specific tolerances which operates under a Quality Management System that is certified ISO 9001:2008.

Sample Preparation Blocks

The SPB series of block digestion systems offers the latest in graphite block technology in many different packages. Graphite blocks are Teflon® coated to resist aggressive corrosive attack for guaranteed long life in harsh laboratory environments.

Description	Qty.	Part No.
SPB 50-24, (115 V/ 230V)	24 Tubes / 50 ml	**N9308019**
SPB 100-12, (115 V/ 230V)	12 Tubes / 100 ml	**N9308010**
SPB 50-48, (115 V/ 230V)	48 Tubes / 50 ml	**N9308004**
SPB 100-30, (115 V/ 230V)	30 Tubes / 100 ml	**N9308012**
SPB 50-72, (230V)	72 Tubes / 50 ml	**N9308005**
SPB 100-42, (230V)	42 Tubes / 100 ml	**N9308014**

Controllers

Our sample blocks operate with either a SPB Digital Controller or SPB Touch Controller. The user friendly SPB Digital Controller includes programmable features such as: temperature set-point to 0.1 °C, even sample heating and evaporation results, timer shutdown option, and programmable alarm for end of cycle.

The SPB Touch Controller includes all of the SPB Digital Controller features and more. Added features include: a graphical representation of the heating profile in real-time to identify the current stage of the method heating program. Safety features include the ability of the controller to monitor the heating cycle of the block to prevent run away situations. The controller allows for the SPB Probe to be calibrated to meet your SOP requirements.

The SPB Probe, used with either the Digital or Touch models, can directly monitor and control the block's heating rate via sample temperature feedback to the controller.

Description	Part No.
SPB Digital Controller	**N9308006**
SPB Touch Controller	**N9308007**

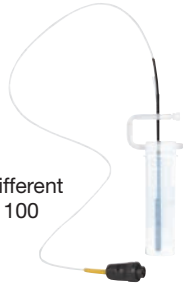
See **page 2** for ordering information and a complete listing of PerkinElmer offices.

Start Up Kits

PerkinElmer provides SPB Start Up kits containing all consumable items required to operate the system including: RackLock *Digi*TUBEs, disposable watch glasses, *Digi*FILTERs, watch glasses, 24 position RackLock rack and storage racks.

Description	Qty.	Part No.
Start Up Kit for SPB 50-24	1	**N9308017**
Start Up Kit for SPB 100-12	1	**N9308011**
Start Up Kit for SPB 50-48	1	**N9308002**
Start Up Kit for SPB 100-30	1	**N9308013**
Start Up Kit for SPB 50-72	1	**N9308025**
Start Up Kit for SPB 100-42	1	**N9308015**

Temperature Probes



Why use thermometer to monitor and manually adjust sample emperature when a SPB Probe will automatically do the job? The SPB Probe provides direct control and monitoring of actual sample temperature via a corrosion-resistant, PFA-coated temperature probe. Available with different holders in a 6" configuration for use with 50 and 100 mL *Digi*TUBE®s. Each probe is supplied with 5 Probe Watch Glasses and a probe holder.

Description	Qty.	Part No.
SPB 6" for 50 mL Tubes	1	**N9308018**
SPB 6" for 100 mL Tubes	1	**N9308009**
SPB Probe Watch Glass (replacement) fo 50 mL Tubes	25	**N9308041**
SPB Probe Watch Glass (replacement) fo 100 mL Tubes	25	**N9308073**

Automatic Shut-Off System

Designed to shut-off SPB systems with no lab supervision. Ideal for overnight digestions and evaporations where samples require volume reductions (volume control ±2.5 mL). Increase lab efficiency by automatically digesting samples off-hours. Select appropriate Probe for Tube use.

Description	Qty.	Part No.
TempSET, without Probe	1	**N9308020**
TempSET Probe for 50 mL Tubes	1	**N9308023**
TempSET Probe for 100 mL Tubes	1	**N9308029**

*Digi*FILTER™

The vacuum assisted *Digi*FILTER assembly provides a quick and easy way to filter samples prior to analysis. Increase lab productivity by filtering particulates from digested samples in a matter of seconds directly from the digestion tube. Available with a 0.45 or 1.0 micron hydrophilic Teflon® membrane.

Description	Qty.	Part No.
*Digi*FILTER 0.45 micron for 50 ml *Digi*TUBEs	100	**N9308031**
*Digi*FILTER 1.0 micron for 50 ml *Digi*TUBEs	100	**N9308032**
Field Filtration Kit 0.45 for 50 ml *Digi*TUBEs*	1	**N9308033**
*Digi*FILTER Manifold	1	**N9308034**
Vacuum Pump 20L / min 115 V	1	**N9308035**
Vacuum Pump 60L / min 115 V	1	**N9308063**

** Contains : 25 DigiFILTERs, 30 DigiTUBEs, 1x 6 ml eyedropper bottle to dispense 2 to 3 drops of (1+1) PlasmaPURE Nitric acid, 1 storagerack, 1 Sharpie pen and 2x 60 ml plastic syringes to create a vacuum to filter samples from the collection vessel to the sample tube.*

Tubes, Caps & Watch Glasses

PerkinElmer offers 50 and 100 ml, disposable, sample digestion tubes with easy-to-read graduations. Accurate 50 or 100 ml graduation is calibrated to meet Class A specifications to allow normalization directly in the tube. RackLock design allows for easy, one-handed closure of leak-free screw cap. All-in-one tubes eliminate the need for five separate vessels: Digestion beakers, volumetric flasks, graduated cylinders, autosampler tubes and storage containers.

Tubes

Description	Qty.	Part No.
*Digi*TUBEs 50 ml with RackLock	750	**N9308008**
*Digi*TUBEs 100 ml with RackLock	300	**N9308016**
Teflon Digestion Tube 50 ml with polypropylene Screw Cap	6	**N9308024**
Tube, Quartz, 62.5 ml, Uncalibrated	6	**N9308048**
Tube, BoroSI, 62.5 ml, Uncalibrated	6	**N9308049**
Tube, BoroSI, 62.5 ml, Calibrated at 50 ml	6	**N9308050**

Caps

Description	Qty.	Part No.
Screw Caps, Orange, for *Digi*TUBEs	250	**N9308058**
Screw Caps, Red, for *Digi*TUBEs	250	**N9308059**
Screw Caps, Clear, for *Digi*TUBEs	250	**N9308060**
Screw Caps, Yellow, for *Digi*TUBEs	250	**N9308056**
Teflon Screw Cap for Teflon Tubes, N9308024 replaces blue cap supplied	6	**N9308027**

Watch Glasses

Description	Qty.	Part No.
Rack for SPB-100-12, 100 ml	1	**N9308067**
Rack for SPB-100-30, 100 ml	1	**N9308068**
Rack for SPB-100-42, 100 ml	1	**N9308069**
Rack for SPB-50-24, 50 ml	1	**N9308070**
Rack for SPB-50-48 and SPB-50-72, 50 ml	1	**N9308042**

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on packs of 1,000 Autosampler Cups or Vials!

See pages 15 and 44

THGA Graphite Tubes only from PerkinElmer!

See pages 20-21

SAVE on ICP Pump Tubing when you purchase 2 packs

Ensure reproducibility by replacing your tubing frequently.

See page 48

PerkinElmer Sample Preparation Blocks!

Available in 50 mL and 100 mL sizes.
Teflon®-coated to resist aggressive, corrosive attack.

See pages 58-59

Order online at **www.perkinelmer.com/supplies**

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